

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 1-13-2006
 Art Unit: 1752 Phone Number: 702-7333 Serial Number: 10/815,398
 Mail Box and Bldg/Room Location: 9D60 (Rem.) Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. see B-6 SCIENTIFIC REFERENCE BR.
 Sci & Tech Inf. Ctr.

Inventors (please provide full names): _____ JAN 13 REC. 3
 Pat. & T.M. Office

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Plz. search for a polymer

of Cl. # 4 or # 15

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>WLL</u>	NA Sequence (#) _____	STN <u>\$470.26</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>1/18/06</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>1/18/06</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>60</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>120</u>	Other _____	Other (specify) _____

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-3 (Cancelled)

4. (Previously Presented) ~~A compound comprising:~~

A polymer comprising

a polymeric chain;

an acid labile group attached to the polymeric chain; and

or
acid decomposable
acid dissociable
acid cleavable at least one hydrophilic group attached to the acid labile group,
wherein the at least one hydrophilic group comprises a sulfhydryl group.

SH

Claims 5-14 (Cancelled)

15. (Previously Presented) A compound comprising:

a polymeric chain;

a dissolution inhibitor attached to the polymeric chain to inhibit dissolution of the polymeric chain in a developer; and

or
solubility inhibiting
solubility suppressing
dissolution suppressing at least one hydrophilic group attached to the dissolution inhibitor,
wherein the at least one hydrophilic group comprises a sulfhydryl group.

SH

Claims 16-27 (Cancelled)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

BIBDATASHEET

CONFIRMATION NO. 7576

Bib Data Sheet

SERIAL NUMBER 10/815,398	FILING DATE 03/31/2004 RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. 42P18694
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APPLICANTS

Wang Yueh, Portland, OR;
 Ernisse S. Putna, Beaverton, OR;

** CONTINUING DATA *****
 None SJL

** FOREIGN APPLICATIONS *****
 None SJL

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
 ** 06/10/2004

Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after allowance	STATE OR COUNTRY OR	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
Verified and Acknowledged	Examiner's Signature <i>[Signature]</i> Initials <i>SJL</i>		1	30	4

ADDRESS
 08791
 BLAKELY SOKOLOFF TAYLOR & ZAFMAN
 12400 WILSHIRE BOULEVARD
 SEVENTH FLOOR
 LOS ANGELES , CA
 90025-1030

TITLE
 Resist compounds including acid labile groups having hydrophilic groups attached thereto

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:51:00 ON 18 JAN 2006

=> d his

FILE 'HCAPLUS' ENTERED AT 11:14:58 ON 18 JAN 2006

L1 1 S US20050221217/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 11:15:33 ON 18 JAN 2006

L2 5 S E1-E5

FILE 'LREGISTRY' ENTERED AT 11:55:41 ON 18 JAN 2006

L3 STR

FILE 'REGISTRY' ENTERED AT 11:56:51 ON 18 JAN 2006

L4 SCR 2043
L5 50 S L3 AND L4
L6 STR L3
L7 50 S L6 AND L4
L8 18969 S L6 AND L4 FUL
SAV L8 LEE398/A

FILE 'HCAPLUS' ENTERED AT 12:13:00 ON 18 JAN 2006

L9 10262 S L8
L10 47983 S ACID(2A) (DECOMPOS? OR DISSOCIA? OR CLEAVA? OR LABIL?)
L11 12 S L9(L) L10
L12 48 S L9 AND L10
L13 48 S L11 OR L12
L14 19355 S ?SOLU? (2A) (SUPPRESS? OR INHIBIT?)
L15 9 S L9 AND L14
L16 57 S L13 OR L15
L17 15 S L16 AND PHOTOG?/SC, SX
L18 8 S L16 AND ?RESIST?
L19 17 S L17 OR L18
L20 20 S L16 AND COMPOSITION?
L21 25 S L19 OR L20

=> d que 121

L4 SCR 2043
L6 STR

H~S~A
3 1 2

NODE ATTRIBUTES:

NSPEC IS RC AT 2
CONNECT IS E1 RC AT 1
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L8 18969 SEA FILE=REGISTRY SSS FUL L6 AND L4
L9 10262 SEA FILE=HCAPLUS ABB=ON PLU=ON L8

L10 47983 SEA FILE=HCAPLUS ABB=ON PLU=ON ACID(2A) (DECOMPOS? OR DISSOCIA? OR CLEAVA? OR LABIL?)
 L11 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L9(L) L10
 L12 48 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND L10
 L13 48 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 OR L12
 L14 19355 SEA FILE=HCAPLUS ABB=ON PLU=ON ?SOLU? (2A) (SUPPRESS? OR INHIBIT?)
 L15 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND L14
 L16 57 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 OR L15
 L17 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND PHOTOG?/SC,SX
 L18 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND ?RESIST?
 L19 17 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 OR L18
 L20 20 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND COMPOSITION?
 L21 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 OR L20

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 13:51:37 ON 18 JAN 2006

=> d l21 1-25 ibib abs hitstr hitind

L21 ANSWER 1 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1004788 HCAPLUS

DOCUMENT NUMBER: 143:315452

TITLE: Resist polymer, resist composition, process for pattern formation, and starting compounds for production of the resist polymer

INVENTOR(S): Momose, Hikaru; Ootake, Atsushi; Nakamura, Tadashi; Ueda, Akifumi

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: PCT Int. Appl., 178 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005085301	A1	20050915	WO 2005-JP4402	20050308

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CP, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

JP 2004-63616

A

2004

0308

JP 2004-73183 A
2004
0315

JP 2004-189889 A
 2004
 0628

JP 2004-220036 A
2004
0728

JP 2004-253002 A
2004
0831

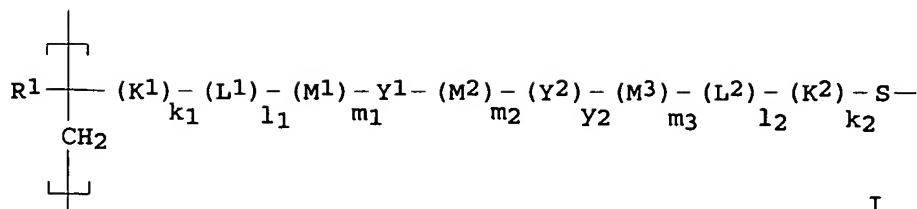
JP 2004-376738 A
 2004
 1227

JP 2005-4315 A

2005

0111

GI



I

AB A resist polymer which exhibits reduced line edge roughness and little causes defects in DUV excimer laser lithog. or the like and which contains as the structural unit an acid-dissociable unit represented by the general formula $J\{(K1)k1\}n\{(L1)l1\}n\{(M1)m1\}n\{Y\}n\{(M2)m2\}n\{(L2)l2\}n\{(K2)k2\}n[E]n\}n$ or I (n = 2-24; J = n-valent hydrocarbon group optionally bearing a substituent and/or a heteroatom; E = residue of polymerization inhibitor, chain transfer agent, or polymerization initiator; K1 and K2 = at least one kind of groups selected from among alkylene, cycloalkylene, oxyalkylene, arylene, etc.; L1 and L2 = at least one kind of groups selected from among -C(O)O-, -C(O)-, and -OC(O)-; M1, M2, and M3 = at least one kind of groups selected from among alkylene, cycloalkylene, oxyalkylene, and arylene; Y, Y1, and Y2 = acid-dissociable linkage; k1, k2, l1, l2, m1, m2, and m3 = 0 or 1; and R1 is H or Me).

IT 864679-77-6P 864679-79-8P 864683-70-5P
864683-73-8P

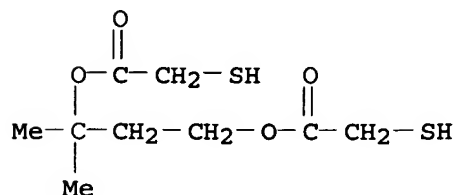
```
(preparation of telomer for synthesis of DUV photoresist polymer)
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RN 864679-77-6 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl
 ester, telomer with 1,1-dimethyl-1,3-propanediyl
 bis(mercaptoacetate), 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 864679-76-5

CMF C9 H16 O4 S2



CM 2

CRN 258879-87-7

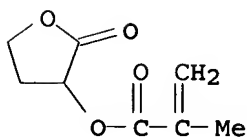
CMF (C15 H22 O2 . C14 H20 O3 . C8 H10 O4)x

CCI PMS

CM 3

CRN 195000-66-9

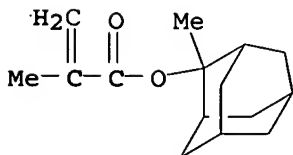
CMF C8 H10 O4



CM 4

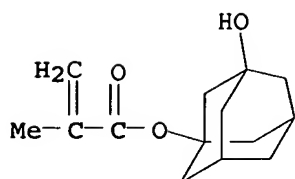
CRN 177080-67-0

CMF C15 H22 O2



CM 5

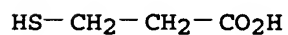
CRN 115372-36-6
CMF C14 H20 O3



RN 864679-79-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, telomer with 3-mercaptopropanoic acid, 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 107-96-0
CMF C3 H6 O2 S

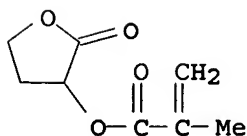


CM 2

CRN 258879-87-7
CMF (C15 H22 O2 . C14 H20 O3 . C8 H10 O4)x
CCI PMS

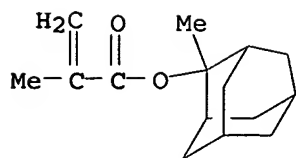
CM 3

CRN 195000-66-9
CMF C8 H10 O4



CM 4

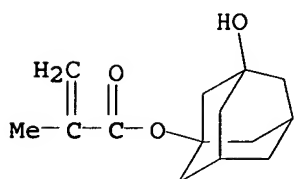
CRN 177080-67-0
CMF C15 H22 O2



CM 5

CRN 115372-36-6

CMF C14 H20 O3



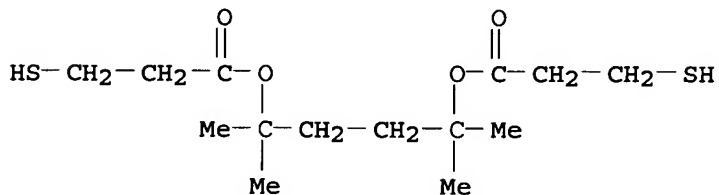
RN 864683-70-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 5(or 6)-cyanobicyclo[2.2.1]hept-2-yl ester, telomer with 1-ethylcyclohexyl 2-methyl-2-propenoate and 1,1,4,4-tetramethyl-1,4-butanediyl bis(3-mercaptopropanoate) (9CI)
(CA INDEX NAME)

CM 1

CRN 864679-84-5

CMF C14 H26 O4 S2



CM 2

CRN 864683-69-2

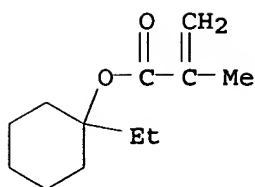
CMF (C12 H20 O2 . C12 H15 N O2)x

CCI PMS

CM 3

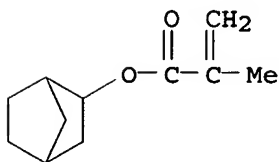
CRN 274248-09-8

CMF C12 H20 O2



CM 4

CRN 130668-19-8
 CMF C12 H15 N O2
 CCI IDS

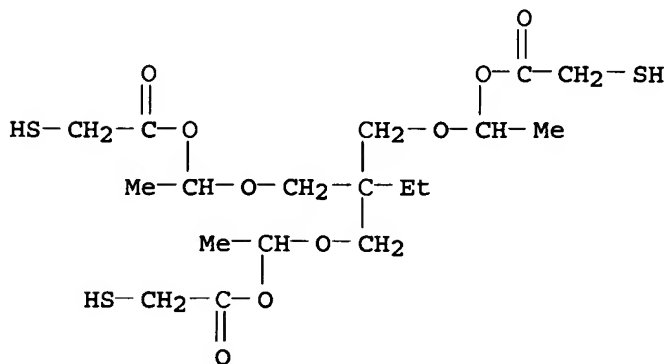


D1-CN

RN 864683-73-8 HCAPLUS
 CN 2-Propenoic acid, 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester,
 telomer with [2-ethyl-2-[[1-[(mercaptoacetyl)oxy]ethoxy]methyl]-
 1,3-propanediyl]bis(oxyethylidene) bis(mercaptoacetate) and
 octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 864683-72-7
 CMF C18 H32 O9 S3

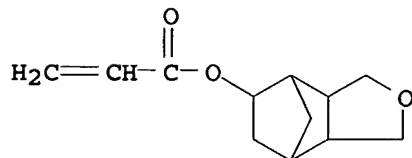


CM 2

CRN 864683-71-6
 CMF (C13 H18 O3 . C12 H14 O4)x
 CCI PMS

CM 3

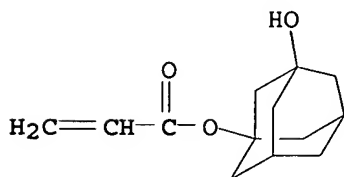
CRN 436852-35-6
 CMF C12 H14 O4
 CCI IDS



D2=O

CM 4

CRN 216581-76-9
 CMF C13 H18 O3



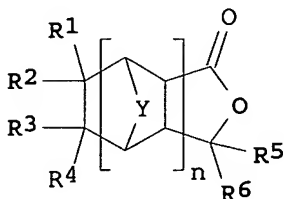
IC ICM C08F020-10
 ICS G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 ST **resist** DUV **photoresist** polymer **compn**
 telomer chain transfer agent
 IT Photolithography
 Photoresists
 (UV; preparation of telomer for synthesis of DUV **photoresist**
 polymer)
 IT Chain transfer agents
 Resists
 (preparation of telomer for synthesis of DUV **photoresist**
 polymer)
 IT 864679-77-6P 864679-79-8P 864679-81-2P
 864683-70-5P 864683-73-8P 864683-74-9P
 864683-76-1P 864683-78-3P
 (preparation of telomer for synthesis of DUV **photoresist**
 polymer)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L21 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:402840 HCAPLUS
DOCUMENT NUMBER: 142:438708
TITLE: Copolymers for forming fine patterns on
substrates in good adhesiveness, preparation
thereof, and thiol compounds therefor
INVENTOR(S): Mita, Takahito; Yamagishi, Takanori
PATENT ASSIGNEE(S): Maruzen Oil Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005120214	A2	20050512	JP 2003-356410	2003 1016
PRIORITY APPLN. INFO.:			JP 2003-356410	2003 1016

OTHER SOURCE(S): MARPAT 142:438708
GI



I

AB Ethylenic double bond-containing compds. are radically polymerized using thiol compds. I [R1-R6 = H, Me, Et; ≥ 1 of R1-R6 = thiol; Y = CH₂, (CH₂)₂, O; n = 0-2] as chain transfer agents to give copolymers (e.g., telomers having terminal groups derived from the thiol compds.), useful for photoresists or antireflective films for semiconductor lithog. The copolymers may comprise (A) units having groups which can be decomposed by acids to increase solubility to alkaline developers and (B) units having polar groups for increase adhesiveness to semiconductor substrates.

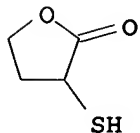
IT 851034-01-0P
(thiol compds. as chain transfer agents for preparation of copolymers useful for photoresists or antireflective films with good adhesiveness to semiconductor substrates)

RN 851034-01-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, telomer with dihydro-3-mercapto-2(3H)-furanone and 2-methyltricyclo[3.3.1.3,7]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 14032-62-3

CMF C4 H6 O2 S



CM 2

CRN 340964-24-1

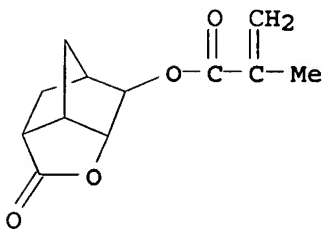
CMF (C15 H22 O2 . C12 H14 O4)x

CCI PMS

CM 3

CRN 254900-07-7

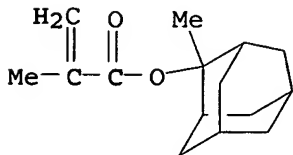
CMF C12 H14 O4



CM 4

CRN 177080-67-0

CMF C15 H22 O2



IC ICM C08F002-38

ICS C07D307-93; C08F012-00

CC 74-5 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 73, 76

ST butyrolactonyl methacrylate mercaptomethyloxatricyclodecanone
telomer **photoresist** adhesiveness; thiol chain transfer
agent telomerization **photoresist**; semiconductor
photolithog antireflective film pos **photoresist**

IT Antireflective films
Photolithography
Positive **photoresists**
Semiconductor device fabrication
Telomerization
(thiol compds. as chain transfer agents for preparation of
copolymers useful for **photoresists** or antireflective
films with good adhesiveness to semiconductor substrates)

IT Telomers (polymers)
(thiol compds. as chain transfer agents for preparation of
copolymers useful for **photoresists** or antireflective
films with good adhesiveness to semiconductor substrates)

IT Chain transfer agents
(thiols; thiol compds. as chain transfer agents for preparation of
copolymers useful for **photoresists** or antireflective
films with good adhesiveness to semiconductor substrates)

IT 851048-16-3P
(chain transfer agents; thiol compds. as chain transfer agents
for preparation of copolymers useful for **photoresists** or
antireflective films with good adhesiveness to semiconductor
substrates)

IT 851034-00-9P
(in preparation of chain transfer agents; thiol compds. as chain
transfer agents for preparation of copolymers useful for
photoresists or antireflective films with good
adhesiveness to semiconductor substrates)

IT 77-73-6, Dicyclopentadiene 591-12-8, α -Angelicalactone
(in preparation of chain transfer agents; thiol compds. as chain
transfer agents for preparation of copolymers useful for
photoresists or antireflective films with good
adhesiveness to semiconductor substrates)

IT 507-09-5, Thioacetic acid, reactions
(in preparation of chain transfer agents; thiol compds. as chain
transfer agents for preparation of copolymers useful for
photoresists or antireflective films with good
adhesiveness to semiconductor substrates)

IT 851034-01-0P 851048-17-4P
(thiol compds. as chain transfer agents for preparation of
copolymers useful for **photoresists** or antireflective
films with good adhesiveness to semiconductor substrates)

L21 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:305576 HCAPLUS

DOCUMENT NUMBER: 140:347540

TITLE: Negative-working presensitized lithographic
plates capable of digital direct laser
platemaking

INVENTOR(S): Takakuwa, Hideki; Kunita, Kazuto

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 91 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004117893	A2	20040415	JP 2002-281721	2002 0926

PRIORITY APPLN. INFO.:

JP 2002-281721

2002
0926

AB The lithog. plates comprise, on supports, recording layer containing radical polymerizable monomers $L_aM(AH)_b$ [L = radical polymerizable group, M = connecting group having valences of (a + b), (AH) = acidic group bearing protonic hydrogen and having acid dissociation constant (pKa) 5.5-13, a = 2-10, b = 1-10], and polymerization initiators. The plates provide scumming-free antiwear printing face.

IT 679843-13-1P 679843-16-4P 679843-20-0P
(polymerized recording layer; neg.-working presensitized lithog. plates having recording layer containing radical polymerizable monomer)

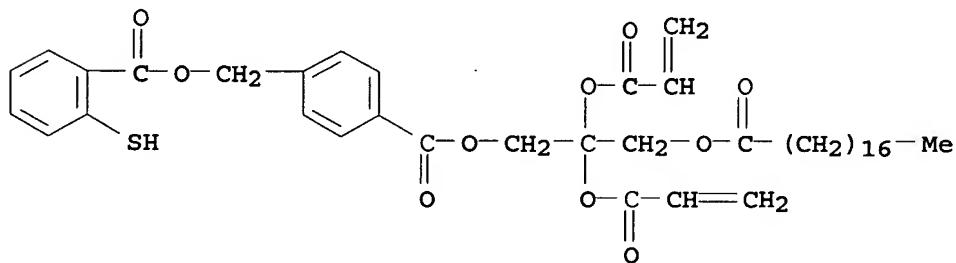
RN 679843-13-1 HCAPLUS

CN Benzoic acid, 2-mercapto-, [4-[[3-[(1-oxooctadecyl)oxy]-2,2-bis[(1-oxo-2-propenyl)oxy]propoxy]carbonyl]phenyl]methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 679843-04-0

CMF C42 H56 O10 S



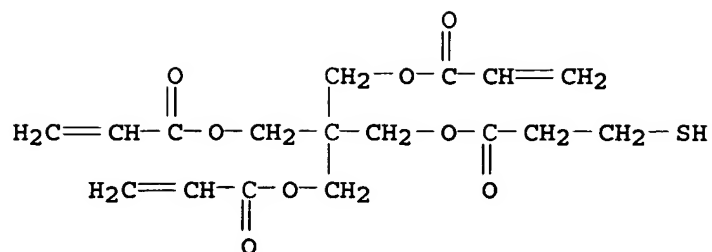
RN 679843-16-4 HCAPLUS

CN 2-Propenoic acid, 2-[[3-mercapto-1-oxopropoxy)methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 679843-07-3

CMF C17 H22 O8 S



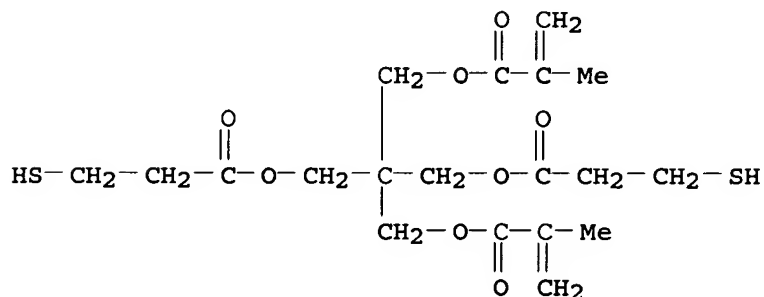
RN 679843-20-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2-bis[(3-mercapto-1-oxopropoxy)methyl]-1,3-propanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 679843-10-8

CMF C19 H28 O8 S2



IC ICM G03F007-027

ICS G03F007-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

IT 679843-13-1P 679843-14-2P 679843-15-3P
679843-16-4P 679843-17-5P 679843-18-6P 679843-19-7P
679843-20-0P 679843-21-1P 679843-23-3P
(polymerized recording layer; neg.-working presensitized lithog. plates having recording layer containing radical polymerizable monomer)

L21 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:693498 HCAPLUS

DOCUMENT NUMBER: 139:237456

TITLE: Radiation-sensitive refractive index-variable compositions for GRIN lens, storage media, and optical device, formation of refractive indexes patterns, and their patterns

INVENTOR(S): Hanamura, Masaaki; Konno, Keiji; Kumano, Atsushi; Bessho, Nobuo

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 1 Japanese
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003246930	A2	20030905	JP 2002-48210	2002 0225
JP 3632974	B2	20050330	JP 2002-48210	2002 0225

PRIORITY APPLN. INFO.: JP 2002-48210

AB The **compsns.** contain (A) acid- or base-decomposing polymers having refractive index n_A , (B) nondecomposing compds. having refractive index n_B , wherein $n_A > n_B$, selected from ladder polysilsesquioxanes, their hydrolyzates, and condensates, (C) radiation-sensitive acid or base generator, and (D) stabilizers. Thus, a **composition** comprising poly(o-phthalaldehyde) 40, GR 650 (B) 60, 2-(4-methoxyphenyl)-4,6-bis(trichloromethyl)-s-triazine 1 part, thinned in diethylene glycol Me Et ether, was applied on a Si wafer, pre-baked to give a film, exposed to light ($\lambda = 365$ nm), and subjected to PEB (post-exposure-bake) to give a 3.0- μ m thick refractive indexes pattern having regions with refractive index 1.42 and 1.52.

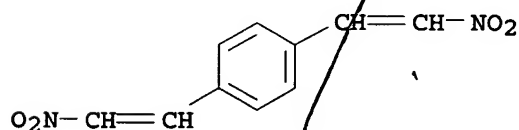
IT 402739-88-2P 402739-89-3P 402739-90-6P
 , 1,4-Benzenedithiol-p-phenylene diisocyanate copolymer
 402739-92-8P, 1,4-Benzenedithiol-4-nitro-1,3-phenylenedichloroformate copolymer
 (radiation-sensitive refractive index-variable **compsns**
 . and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)

RN 402739-88-2 HCAPLUS
 CN 1,4-Benzenedithiol, polymer with 1,4-bis(2-nitroethenyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 3179-01-9

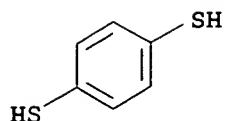
CMF C10 H8 N2 O4



CM 2

CRN 624-39-5

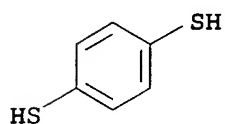
CMF C6 H6 S2



RN 402739-89-3 HCAPLUS
CN 1,4-Benzenedicarbonyl dichloride, polymer with 1,4-benzenedithiol
(9CI) (CA INDEX NAME)

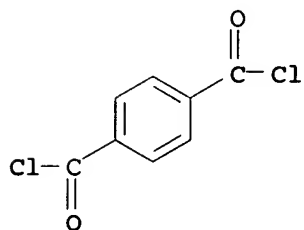
CM 1

CRN 624-39-5
CMF C6 H6 S2



CM 2

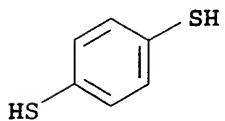
CRN 100-20-9
CMF C8 H4 Cl2 O2



RN 402739-90-6 HCAPLUS
CN 1,4-Benzenedithiol, polymer with 1,4-diisocyanatobenzene (9CI)
(CA INDEX NAME)

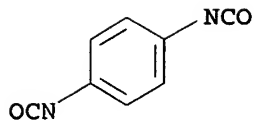
CM 1

CRN 624-39-5
CMF C6 H6 S2



CM 2

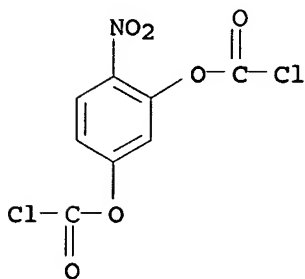
CRN 104-49-4
CMF C8 H4 N2 O2



RN 402739-92-8 HCAPLUS
 CN Carbonochloridic acid, 4-nitro-1,3-phenylene ester, polymer with
 1,4-benzenedithiol (9CI) (CA INDEX NAME)

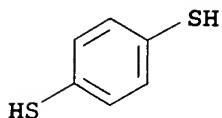
CM 1

CRN 402739-91-7
 CMF C8 H3 Cl2 N O6



CM 2

CRN 624-39-5
 CMF C6 H6 S2



IC ICM C08L101-00
 ICS C08K005-00; C08L083-04; G02B001-04; G02B003-00; G02B005-18;
 G02B006-00; G02B006-12; G03F007-004; G03H001-02
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 38
 ST radiation sensitive refractive index variable compn;
 GRIN lens polysilsesquioxane decomp polymer compn;
 hologram device polysilsesquioxane decomp polymer compn
 ; diffraction grating polysilsesquioxane decomp polymer
 compn; optical fiber polysilsesquioxane decomp polymer
 compn; optical disk polysilsesquioxane decomp polymer
 compn; optical integrated circuit polysilsesquioxane
 decomp polymer compn
 IT Silsesquioxanes
 (Me Ph, Glass Resin GR 908, GR 950; radiation-sensitive
 refractive index-variable compns. and formation of

- refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Silsesquioxanes
(Me Ph, ethoxy- and hydroxy-terminated, Glass Resin GR 100; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Silsesquioxanes
(Me, Glass Resin GR 650; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Integrated circuits
(optical; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Diffraction gratings
Holography
Optical disks
Optical instruments
(radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Polycarbonates, uses
Polyethers, uses
(radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT Polyurethanes, uses
(thio-; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT 3584-23-4, 2-(4-Methoxyphenyl)-4,6-bis(trichloromethyl)-s-triazine 16668-99-8, Diphenyliodonium trifluoroacetate 111281-12-0
(radiation-sensitive acid generator; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT 119313-12-1, 2-Benzyl-2-dimethylamino-1-(4-morpholinophenyl)-butan-1-one 204782-35-4, N-(2-Nitrobenzyloxycarbonyl)pyrrolidine
(radiation-sensitive base generator; radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT 643-79-8DP, o-Phthalaldehyde, reaction products with potassium tert-butoxide 865-47-4DP, reaction products with o-phthalaldehyde
(radiation-sensitive refractive index-variable **compns.** and formation of refractive indexes patterns for GRIN lens, storage media, and optical device)
- IT 25750-62-3P, o-Phthalaldehyde homopolymer 26966-00-7P
119652-66-3P 119806-22-3P 155462-47-8P 155462-48-9P
402739-87-1P 402739-88-2P 402739-89-3P
402739-90-6P, 1,4-Benzenedithiol-p-phenylene diisocyanate copolymer 402739-92-8P, 1,4-Benzenedithiol-4-nitro-1,3-phenylenedichloroformate copolymer 402739-96-2P 402739-97-3P, 1,4-Benzenedithiol-p-phenylene diisocyanate copolymer, sru
402745-46-4P 402859-28-3P 592537-96-7P 592538-05-1P
592538-08-4P 592538-11-9P

(radiation-sensitive refractive index-variable **compsns**
 . and formation of refractive indexes patterns for GRIN lens,
 storage media, and optical device)

IT 122-60-1, Phenyl glycidyl ether 539-48-0, 1,4-
 Benzenedimethanamine 1675-54-3, Bisphenol A diglycidyl ether
 3221-14-5, 3-Phenoxypropylene sulfide 7426-75-7
 (stabilizer; radiation-sensitive refractive index-variable
compsns. and formation of refractive indexes patterns
 for GRIN lens, storage media, and optical device)

L21 ANSWER 5 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:376854 HCAPLUS

DOCUMENT NUMBER: 138:386271

TITLE: Thermally **dissociable** maleic
 acid derivative crosslinker and
 curable **composition** containing the
 same

INVENTOR(S): Choi, Wonmun

PATENT ASSIGNEE(S): The Yokohama Rubber Co., Ltd., Japan

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040133	A1	20030515	WO 2002-JP11369	2002 1031
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004260038	A1	20041223	US 2004-493232	2004 0421
PRIORITY APPLN. INFO.:		JP 2001-340779	A	2001 1106
		JP 2001-381198	A	2001 1214
		JP 2001-381199	A	2001 1214
		WO 2002-JP11369	W	2002

1031

OTHER SOURCE(S): MARPAT 138:386271

AB The maleic acid deriv. is obtained by reacting a compound having ≥ 1 thiol groups with a maleic acid compound. The maleic acid derivative is thermally dissociable. The curable composition, which contains this maleic acid derivative as a hardener, is usable as a thermally dissociable material. Reacting 2-di-n-butylamino-4,6-dimercapto-s-triazine with maleic anhydride in MEK at 70° for 3 h, mixing the resulting adduct with bisphenol A type epoxy resin and DMP 30, and curing 30 min at 80° gave a tack-free product, which was thermally dissociated when heated in a 160° oven for 10 min.

IT 525601-96-1P
(oligomeric, crosslinker; thermally dissociable
maleic acid derivative crosslinker for curable
composition with good disposability)

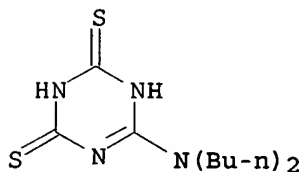
RN 525601-96-1 HCAPLUS

CN 1H-Pyrrole-2,5-dione, 1,1'-(1,2-ethanediyl)bis-, polymer with
6-(dibutylamino)-1,3,5-triazine-2,4(1H,3H)-dithione (9CI) (CA
INDEX NAME)

CM 1

CRN 29529-99-5

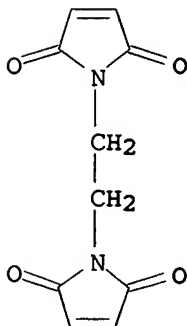
CMF C11 H20 N4 S2



CM 2

CRN 5132-30-9

CMF C10 H8 N2 O4



IC ICM C07D405-14

ICS C07D417-14; C07D251-46; C07D207-416; C07D403-14; C08G075-00;
C08G018-38; C08G059-40

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 27

ST thermally **dissociable** maleic acid deriv
crosslinker; maleic anhydride dibutylaminodimercaptotriazine
adduct crosslinker epoxy resin

IT Polyurethanes, uses
(polyoxyalkylene-, thermally dissociable; thermally
dissociable maleic acid derivative crosslinker
for curable **composition** with good disposability)

IT Crosslinking agents
Polymer degradation
(thermally **dissociable** maleic acid derivative
crosslinker for curable **composition** with good
disposability)

IT Epoxy resins, uses
(thermally dissociable; thermally **dissociable** maleic
acid derivative crosslinker for curable **composition**
with good disposability)

IT 525601-94-9P 525601-95-0P 525601-97-2P 525601-98-3P
526211-13-2P
(crosslinker; thermally **dissociable** maleic
acid derivative crosslinker for curable **composition**
with good disposability)

IT 525601-96-1P
(oligomeric, crosslinker; thermally **dissociable**
maleic acid derivative crosslinker for curable
composition with good disposability)

IT 9057-91-4, Polypropylene glycol-TDI copolymer 25068-38-6,
Bisphenol A epoxy resin 502476-12-2, ED505R
(thermally **dissociable** maleic acid derivative
crosslinker for curable **composition** with good
disposability)

IT 60-24-2, 2-Mercaptoethanol 108-31-6, Maleic anhydride, reactions
147-93-3, Thiosalicylic acid 925-21-3, Maleic acid
Monobutyl ester 1072-71-5, 1,3,4-Thiadiazole-2,5-dithiol
5132-30-9, 1,2-Bis(maleimido)ethane 29529-99-5,
2-Dibutylamino-4,6-dimercapto-s-triazine
(thermally **dissociable** maleic acid derivative
crosslinker for curable **composition** with good
disposability)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE REFORMAT

L21 ANSWER 6 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:94105 HCAPLUS
DOCUMENT NUMBER: 138:156904
TITLE: Easily decomposable corrosion inhibitor for
metal
INVENTOR(S): Oda, Yoshihisa
PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003034677

A2

20030207

JP 2001-217584

2001
0718

PRIORITY APPLN. INFO.:

JP 2001-217584

2001
0718

OTHER SOURCE(S): MARPAT 138:156904

AB The inhibitor comprises $[HS(C_nH_m)OCO]zCiH_j(CO_2M)k$ [I; $n = 1-12$; $m = 2-2n$; $i = 2-25$; $j = 0-(2i + 1 - k - z)$; $k = 1-5$; $z = 1-5$; $M = H$, metal, ammonium]. Corrosion inhibitor **compns.** comprise salts and/or mixts. of I and polyamines or $[HS(C_nH_m)OCO]zCiH_j(CO_2H)k.1/sR(CtNuNv)wR'$ [$n, m, i, j, k, z =$ same as I; $t = 2-10$, $u = 5-25$; $v = 1-5$; $w = 2-200,000$; $R, R' = H$, amino, C1-20 hydrocarbyl; $x = 1 - (w + 2)$].

IT 494825-09-1 494825-10-4

(easily decomposable mercaptooxycarbonylcarboxylic acid corrosion inhibitor for metal)

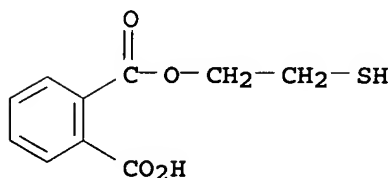
RN 494825-09-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, mono(2-mercaptoethyl) ester, polymer with aziridine (9CI) (CA INDEX NAME)

CM 1

CRN 128338-14-7

CMF C10 H10 O4 S



CM 2

CRN 151-56-4

CMF C2 H5 N



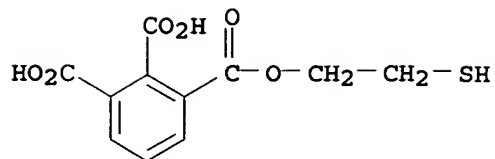
RN 494825-10-4 HCAPLUS

CN 1,2,3-Benzenetricarboxylic acid, 1-(2-mercaptoethyl) ester, polymer with aziridine (9CI) (CA INDEX NAME)

CM 1

CRN 142495-88-3

CMF C11 H10 O6 S



CM 2

CRN 151-56-4

CMF C2 H5 N



IC ICM C07C323-12
ICS C23F011-00; C23F011-16
CC 55-10 (Ferrous Metals and Alloys)
Section cross-reference(s): 23, 56
IT Corrosion inhibitors
(easily decomposable mercaptooxycarbonylcarboxylic acid corrosion inhibitor for metal)
IT 9002-98-6D, reaction products with dicarboxylic acid monomercaptoalkyl ester 128338-14-7 142495-88-3
494825-09-1 494825-10-4 494836-07-6
(easily decomposable mercaptooxycarbonylcarboxylic acid corrosion inhibitor for metal)
IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 39462-15-2, uses
(easily decomposable mercaptooxycarbonylcarboxylic acid corrosion inhibitor for metal)
IT 25377-73-5, Dodecenylsuccinic anhydride
(in preparation of inhibitor; easily decomposable mercaptooxycarbonylcarboxylic acid corrosion inhibitor for metal)

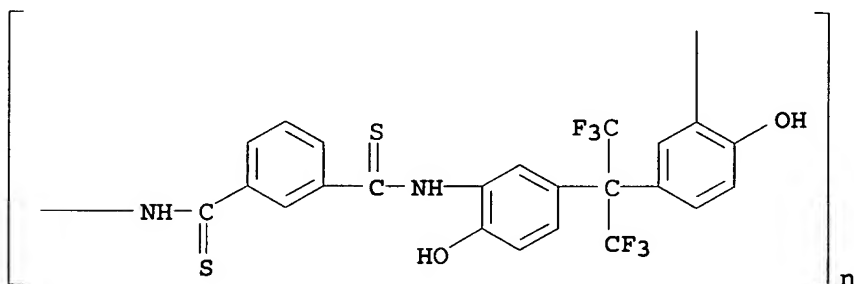
L21 ANSWER 7 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:975711 HCAPLUS
DOCUMENT NUMBER: 138:63820
TITLE: Polybenzoxazole precursors, their preparation, and positive photoresists therewith
INVENTOR(S): Ehara, Kazuya; Shibasaki, Yuji; Ueda, Mitsuru
PATENT ASSIGNEE(S): Nitto Denko Corp. Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002371133	A2	20021226	JP 2001-180679	2001

0614

MARPAT 138:63820

CN Poly[iminocarbonothioyl-1,3-phenylenecarbonothioylimino(6-hydroxy-1,3-phenylene) [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] (4-hydroxy-1,3-phenylene)] (9CI) (CA INDEX NAME)



IT 99-63-8, Isophthaloyl chloride 149-30-4, 2-Mercaptobenzothiazole

2382-96-9, 2-Mercaptobenzoxazole

(in preparation of polybenzoxazole precursors from carboxylic acids and dihydroxydiamines for pos. photoresists)

IT 113339-21-2P 370567-91-2P 479198-42-0P

(preparation of polybenzoxazole precursors from carboxylic acids and dihydroxydiamines for pos. photoresists)

L21 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:900258 HCAPLUS

DOCUMENT NUMBER: 136:29177

TITLE: Radiation-sensitive resin composition
for chemical amplified pos. tone resistINVENTOR(S): Nishimura, Yukio; Douki, Katsuji; Kajita,
Toru; Shimokawa, Tsutomu

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: Eur. Pat. Appl., 54 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

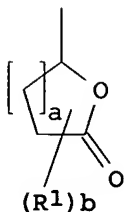
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1162506	A1	20011212	EP 2001-113944	2001 0607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002062657	A2	20020228	JP 2001-95877	2001 0329
US 2002009667	A1	20020124	US 2001-874977	2001 0607
US 6753124	B2	20040622		
PRIORITY APPLN. INFO.:			JP 2000-173708	A 2000 0609
			JP 2001-95877	A 2001 0329

GI



I

AB A radiation-sensitive resin **composition** used as a chemical amplified pos. tone **resist** responsive to short wavelength active radiation such as KrF excimer laser and ArF excimer laser is disclosed. The resin **composition** comprises: (A) an **acid-dissociable** group-containing resin which is insol. or scarcely soluble in alkali and becomes alkali soluble when the **acid-dissociable** group **dissocs.**, the resin comprising a lactone cyclic structure I (a = 1-3; b = 0-9; R1 = monovalent organic group); and (B) a photoacid generator. The **composition** has high transmittance of radiation, exhibits high sensitivity, resolution, and pattern shape, and can produce semiconductors at a high yield without producing resolution defects during microfabrication.

IT 379257-71-3P

(radiation-sensitive resin **composition** for chemical amplified pos. tone **resist**)

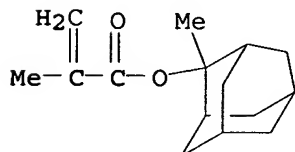
RN 379257-71-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 3-mercaptopropanoic acid and (tetrahydro-5-oxo-2-furanyl)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

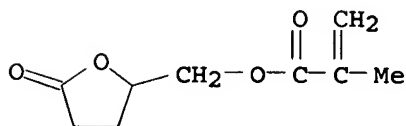
CMF C15 H22 O2



CM 2

CRN 156938-09-9

CMF C9 H12 O4



CM 3

CRN 107-96-0

CMF C3 H6 O2 S

HS-CH₂-CH₂-CO₂H

IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 ST chem amplified **photoresist acid**
dissociable lactone cyclic
 IT Photolithography
 (UV; radiation-sensitive resin **composition** for)
 IT Positive **photoresists**
 (radiation-sensitive resin **composition** for)
 IT 1116-76-3, Tri-n-octylamine 3033-62-3, Bis(2-
 dimethylaminoethyl)ether 193810-83-2, N-tert-Butoxycarbonyl-2-
 phenylbenzimidazole 330576-56-2, N-tert-
 Butoxycarbonyldicyclohexylamine
 (acid diffusion control agent; radiation-sensitive resin
composition for chemical amplified pos. tone **resist**)
 IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1, Di-tert-butyl
 1,3-adamantanedicarboxylate 231296-44-9, t-Butoxycarbonylmethyl
 deoxycholate 296242-01-8, 2,5-Dimethyl-2,5-di(1-
 adamantylcarbonyloxy)hexane
 (additives; radiation-sensitive resin **composition** for
 chemical amplified pos. tone **resist**)
 IT 542-92-7, Cyclopentadiene, reactions 814-68-6, Acryloyl chloride
 920-46-7, Methacryloyl chloride 34862-06-1, 4,5-
 Diacetoxypentanal 78984-88-0
 (preparation of radiation-sensitive resin **composition** for chemical
 amplified pos. tone **resist**)
 IT 10374-51-3P, 4-Hydroxymethyl-γ-butyrolactone 156938-09-9P
 259154-20-6P, 4,5-Diacetoxypentanoic acid 264193-11-5P
 379257-66-6P 379257-68-8P 379257-69-9P 379257-70-2P
 (preparation of radiation-sensitive resin **composition** for chemical
 amplified pos. tone **resist**)
 IT 379257-71-3P 379257-72-4P 379257-73-5P 379257-75-7P
 379257-76-8P 379257-77-9P 379257-78-0P 379257-79-1P
 379257-81-5P 379257-82-6P 379257-83-7P
 (radiation-sensitive resin **composition** for chemical amplified
 pos. tone **resist**)
 IT 96-48-0, γ-Butyrolactone 108-94-1, Cyclohexanone, uses
 110-43-0, 2-Heptanone 84540-57-8, Propylene glycol monomethyl
 ether acetate
 (solvent; radiation-sensitive resin **composition** for chemical
 amplified pos. tone **resist**)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L21 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:736888 HCAPLUS
 DOCUMENT NUMBER: 135:290228
 TITLE: Manufacture of water-based emulsions
 containing self-emulsifying acrylic urethane
 polymers for coatings
 INVENTOR(S): Morishima, Takeshi; Kanno, Akira; Sasahara,
 Toshiaki; Sugimoto, Kazuya; Shimura, Noriyuki;
 Yamaguchi, Hirotaka
 PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan;

SOURCE: Asia Industry Co., Ltd.
 Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001278923	A2	20011010	JP 2000-98184	

2000
0331

PRIORITY APPLN. INFO.: JP 2000-98184

2000
0331

AB The emulsions with good storage stability for haze-free coatings with high flexibility, toughness, durability, and solvent **resistance**, are manufactured without using organic solvents by (1) reacting organic polyisocyanates with (A) SH- and active H-containing compds., (B) active H-containing compds. having hydrophilic anion- or cation-forming groups, and (C) other active H-containing compds. in ethylenically unsatd. monomers in the presence of polymerization **inhibitors** to give **solns.** of active H-terminated urethane prepolymers having SH, hydrophilic anion- or cation-forming groups, and number-average mol. weight $\leq 50,000$ in the unsatd. monomers, (2) neutralizing the solns. with cations or cationic neutralization agents, (3) emulsifying the solns. in H₂O, and (4) radically polymerizing the urethane prepolymers with the unsatd. monomers in the presence of radical polymerization initiators. Alternatively, the emulsions are manufactured by preparing solns. of urethane prepolymers similarly without using A, neutralizing the solns., adding H₂O, aminothiols, and optionally chain extenders to the neutralized solns. to form emulsions of the SH-containing prepolymers, and carrying out the above radical polymerization. Thus, a prepolymer prepared by reacting polyester diol (prepared from 3-methyl-1,5-pentanediol and adipic acid), neopentyl glycol, 2,2-dimethylol butyric acid, 2-mercapto-1-hydroxyethane, and 1,6-hexamethylene diisocyanate in Me methacrylate, was mixed with acrylic acid, diacetoneacrylamide, Me methacrylate, and Bu acrylate, neutralized with triethylamine, emulsified with H₂O, radical-polymerized, and reacted with glutaric acid dihydrazide to give an aqueous emulsion, which was used to form a film showing high water **resistance**.

IT 365438-66-0P 365438-68-2P 365438-70-6P
 365438-72-8P 365438-74-0P 365438-77-3P
 365438-79-5P 365438-81-9P 365438-83-1P
 365438-85-3P 365438-88-6P

(manufacture of aqueous acrylic urethane polymer emulsions without using organic solvents for haze-free flexible coatings)

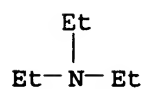
RN 365438-66-0 HCAPLUS

CN Hexanedioic acid, polymer with 2,2-bis(hydroxymethyl)butanoic acid, butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2,2-dimethyl-1,3-propanediol, 2-mercaptoethanol, methyl 2-methyl-2-propenoate, 3-methyl-1,5-pentanediol, pentanedioic acid dihydrazide and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-65-9

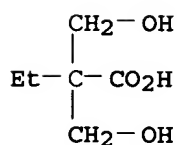
CMF (C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H14 O2 . C6 H12
O4 . C6 H10 O4 . C5 H12 N4 O2 . C5 H12 O2 . C5 H8 O2 . C3 H4
O2 . C2 H6 O S)x

CCI PMS

CM 3

CRN 10097-02-6

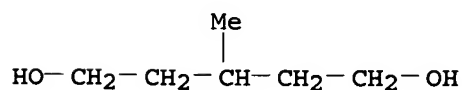
CMF C6 H12 O4



CM 4

CRN 4457-71-0

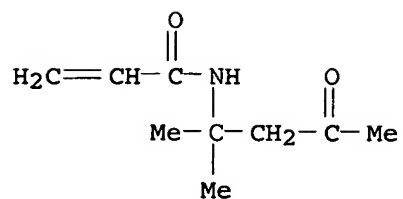
CMF C6 H14 O2



CM 5

CRN 2873-97-4

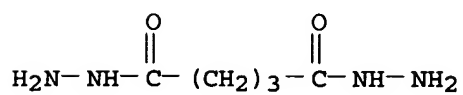
CMF C9 H15 N O2



CM 6

CRN 1508-67-4

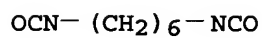
CMF C5 H12 N4 O2



CM 7

CRN 822-06-0

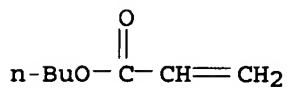
CMF C8 H12 N2 O2



CM 8

CRN 141-32-2

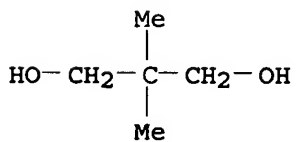
CMF C7 H12 O2



CM 9

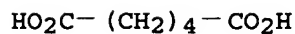
CRN 126-30-7

CMF C5 H12 O2



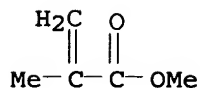
CM 10

CRN 124-04-9
CMF C6 H10 O4



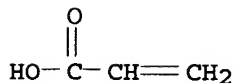
CM 11

CRN 80-62-6
CMF C5 H8 O2



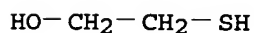
CM 12

CRN 79-10-7
CMF C3 H4 O2



CM 13

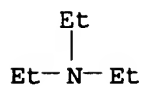
CRN 60-24-2
CMF C2 H6 O S



RN 365438-68-2 HCAPLUS
CN Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with bis(isocyanatomethyl)cyclohexane, butyl 2-propenoate, diethyl carbonate, 1,3-dihydroxy-2-propanone, 2,3-dimercapto-1-propanol, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, α,α' -1,2-ethanediylbis[ω -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]]], ethenylbenzene, 1,6-hexanediol, 2-hydroxyethyl 2-methyl-2-propenoate, 2-mercaptoethanol, methyl 2-methyl-2-propenoate, pentanedioic acid dihydrazide and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N



CM 2

CRN 365438-67-1

CMF (C10 H14 N2 O2 . C9 H15 N O2 . C8 H8 . C7 H12 O2 . C6 H14 O2
 . C6 H12 O4 . C6 H10 O3 . (C6 H10 O2)_n (C6 H10 O2)_n C2 H6 O2
 . C5 H12 N4 O2 . C5 H10 O3 . C5 H8 O2 . C3 H8 O S2 . C3 H6 O3
 . C3 H4 O2 . C2 H6 O S)x

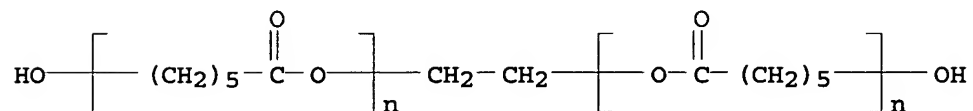
CCI PMS

CM 3

CRN 59692-54-5

CMF (C6 H10 O2)_n (C6 H10 O2)_n C2 H6 O2

CCI PMS

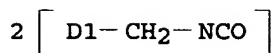


CM 4

CRN 42170-25-2

CMF C10 H14 N2 O2

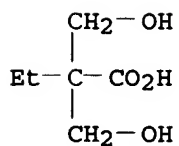
CCI IDS



CM 5

CRN 10097-02-6

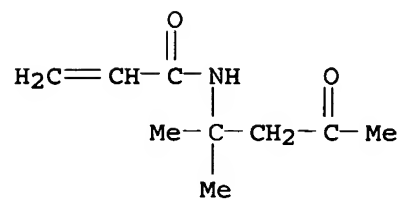
CMF C6 H12 O4



CM 6

CRN 2873-97-4

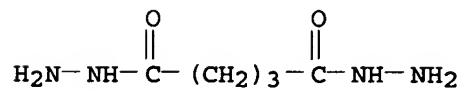
CMF C9 H15 N O2



CM 7

CRN 1508-67-4

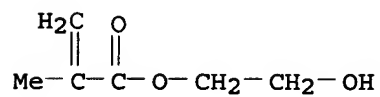
CMF C5 H12 N4 O2



CM 8

CRN 868-77-9

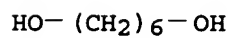
CMF C6 H10 O3



CM 9

CRN 629-11-8

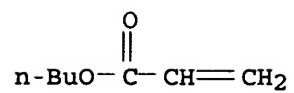
CMF C6 H14 O2



CM 10

CRN 141-32-2

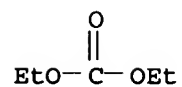
CMF C7 H12 O2



CM 11

CRN 105-58-8

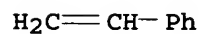
CMF C5 H10 O3



CM 12

CRN 100-42-5

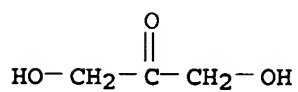
CMF C8 H8



CM 13

CRN 96-26-4

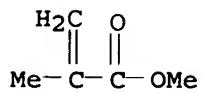
CMF C3 H6 O3



CM 14

CRN 80-62-6

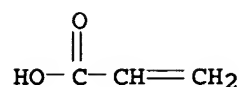
CMF C5 H8 O2



CM 15

CRN 79-10-7

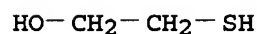
CMF C3 H4 O2



CM 16

CRN 60-24-2

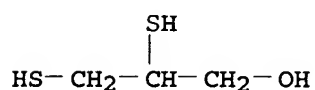
CMF C2 H6 O S



CM 17

CRN 59-52-9

CMF C3 H8 O S2



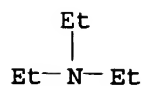
RN 365438-70-6 HCAPLUS

CN Pentanedioic acid, dihydrazide, polymer with 2,2-bis(hydroxymethyl)butanoic acid, bis(isocyanatomethyl)cyclohexane, 1,3-dihydroxy-2-propanone, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 2-mercaptoethanol and methyl 2-methyl-2-propenoate, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-69-3

CMF (C10 H14 N2 O2 . C6 H12 O4 . C5 H12 N4 O2 . C5 H8 O2 . (C4 H8 O)n H2 O . C3 H6 O3 . C2 H6 O S)x

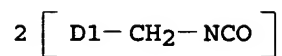
CCI PMS

CM 3

CRN 42170-25-2

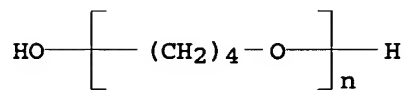
CMF C10 H14 N2 O2

CCI IDS



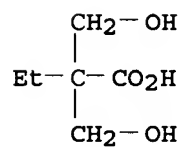
CM 4

CRN 25190-06-1
 CMF (C4 H8 O)_n H2 O
 CCI PMS



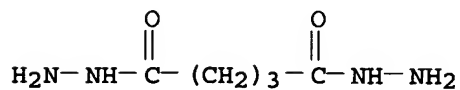
CM 5

CRN 10097-02-6
 CMF C6 H12 O4



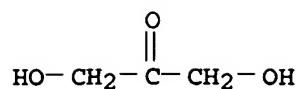
CM 6

CRN 1508-67-4
 CMF C5 H12 N4 O2



CM 7

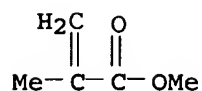
CRN 96-26-4
 CMF C3 H6 O3



CM 8

CRN 80-62-6

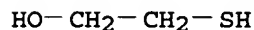
CMF C5 H8 O2



CM 9

CRN 60-24-2

CMF C2 H6 O S



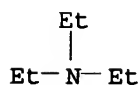
RN 365438-72-8 HCAPLUS

CN Hexanedioic acid, polymer with 2-aminoethanethiol, 5-amino-1,3,3-trimethylcyclohexanemethanamine, butyl 2-propenoate, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2,2-dimethyl-1,3-propanediol, hexanedioic acid dihydrazide, 1,6-hexanediol, 2-hydroxyethyl 2-propenoate, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyl 2-methyl-2-propenoate, 2-propenenitrile and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

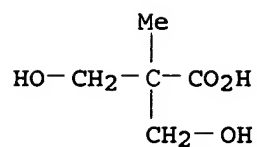
CRN 365438-71-7

CMF (C12 H18 N2 O2 . C10 H22 N2 . C9 H15 N O2 . C7 H12 O2 . C6 H14 N4 O2 . C6 H14 O2 . C6 H10 O4 . C5 H12 O2 . C5 H10 O4 . C5 H8 O3 . C5 H8 O2 . C3 H4 O2 . C3 H3 N . C2 H7 N S)x

CCI PMS

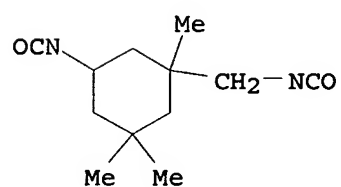
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CRN 4767-03-7
CMF C5 H10 O4



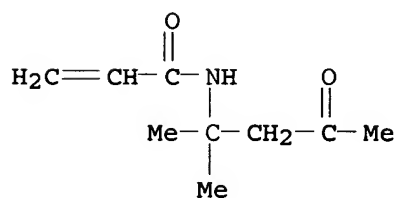
CM 4

CRN 4098-71-9
CMF C12 H18 N2 O2



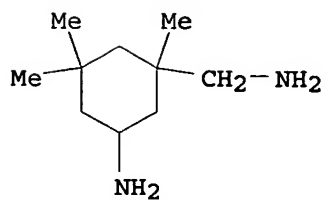
CM 5

CRN 2873-97-4
CMF C9 H15 N O2



CM 6

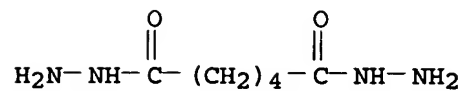
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CMF C10 H22 N2



CM 7

CRN 1071-93-8

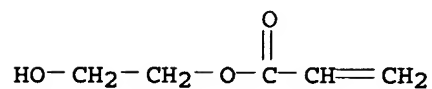
CMF C6 H14 N4 O2



CM 8

CRN 818-61-1

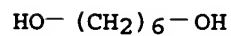
CMF C5 H8 O3



CM 9

CRN 629-11-8

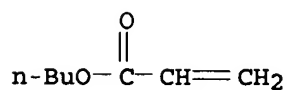
CMF C6 H14 O2



CM 10

CRN 141-32-2

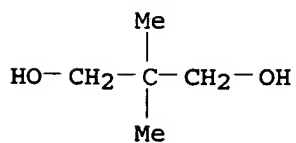
CMF C7 H12 O2



CM 11

CRN 126-30-7

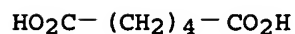
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CM 12

CRN 124-04-9

CMF C6 H10 O4



CM 13

CRN 107-13-1

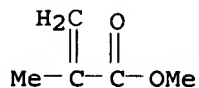
CMF C3 H3 N



CM 14

CRN 80-62-6

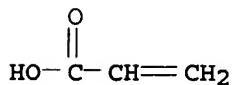
CMF C5 H8 O2



CM 15

CRN 79-10-7

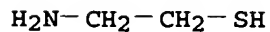
CMF C3 H4 O2



CM 16

CRN 60-23-1

CMF C2 H7 N S



RN 365438-74-0 HCAPLUS

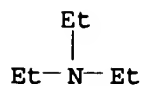
CN Hexanedioic acid, dihydrazide, polymer with 2-aminoethanethiol, 5-amino-1,3,3-trimethylcyclohexanemethanamine, 2,2-bis(hydroxymethyl)butanoic acid, butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, α,α' -1,2-ethanediylbis[ω -hydroxypoly[oxy(1-oxo-

1,6-hexanediyl)]], methyl 2-methyl-2-propenoate and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-73-9

CMF (C10 H22 N2 . C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H14 N4 O2 . C6 H12 O4 . (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2 . C5 H8 O2 . C3 H4 O2 . C2 H7 N S)x

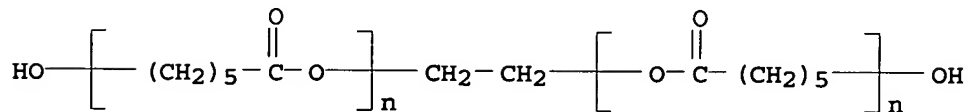
CCI PMS

CM 3

CRN 59692-54-5

CMF (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2

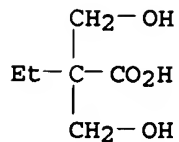
CCI PMS



CM 4

CRN 10097-02-6

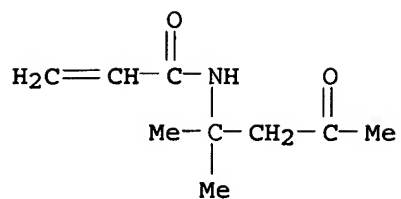
CMF C6 H12 O4



CM 5

CRN 2873-97-4

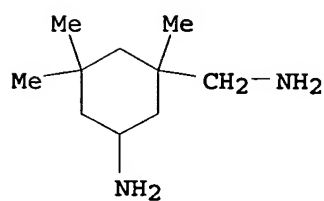
CMF C9 H15 N O2



CM 6

CRN 2855-13-2

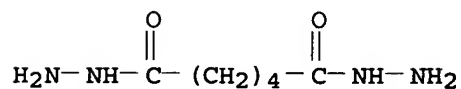
CMF C10 H22 N2



CM 7

CRN 1071-93-8

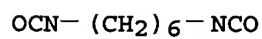
CMF C6 H14 N4 O2



CM 8

CRN 822-06-0

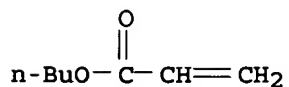
CMF C8 H12 N2 O2



CM 9

CRN 141-32-2

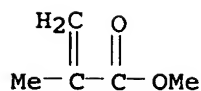
CMF C7 H12 O2



CM 10

CRN 80-62-6

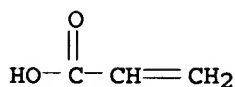
CMF C5 H8 O2



CM 11

CRN 79-10-7

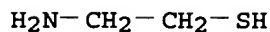
CMF C3 H4 O2



CM 12

CRN 60-23-1

CMF C2 H7 N S



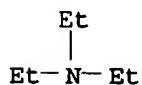
RN 365438-77-3 HCAPLUS

CM Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with
2-aminoethanethiol, 5-amino-1,3,3-trimethylcyclohexanemethanamine,
butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-
oxobutyl)-2-propenamide, α,α' -1,2-
ethanediylbis[ω -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]]],
methyl 2-methyl-2-propenoate and 2-propenoic acid, compd. with
N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-76-2

CMF (C10 H22 N2 . C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H12
O4 . (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2 . C5 H8 O2 . C3 H4 O2

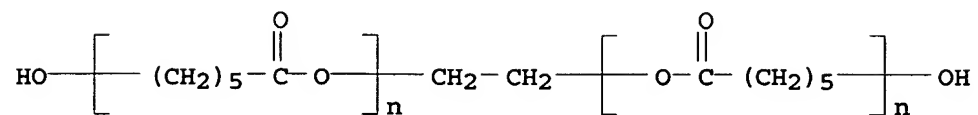
. C2 H7 N S)x
CCI PMS

CM 3

CRN 59692-54-5

CMF (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2

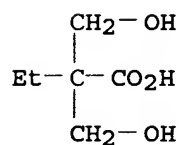
CCI PMS



CM 4

CRN 10097-02-6

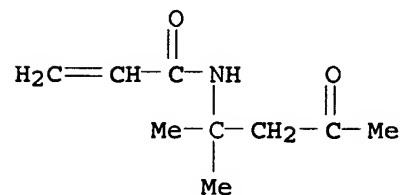
CMF C6 H12 O4



CM 5

CRN 2873-97-4

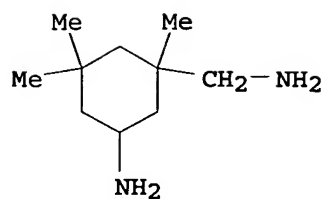
CMF C9 H15 N O2



CM 6

CRN 2855-13-2

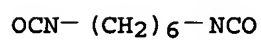
CMF C10 H22 N2



CM 7

CRN 822-06-0

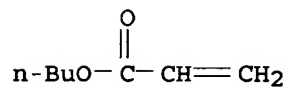
CMF C8 H12 N2 O2



CM 8

CRN 141-32-2

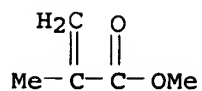
CMF C7 H12 O2



CM 9

CRN 80-62-6

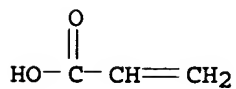
CMF C5 H8 O2



CM 10

CRN 79-10-7

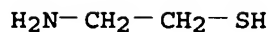
CMF C3 H4 O2



CM 11

CRN 60-23-1

CMF C2 H7 N S



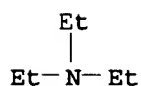
RN 365438-79-5 HCAPLUS

CN Hexanedioic acid, polymer with 2,2-bis(hydroxymethyl)butanoic acid, butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2,2-dimethyl-1,3-propanediol, 2-hydroxyethyl 2-methyl-2-propenoate, 2-mercaptoethanol, methyl 2-methyl-2-propenoate, 3-methyl-1,5-pentanediol, pentanedioic acid dihydrazide and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-78-4

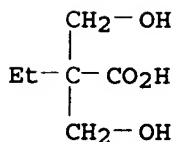
CMF (C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H14 O2 . C6 H12 O4 . C6 H10 O4 . C6 H10 O3 . C5 H12 N4 O2 . C5 H12 O2 . C5 H8 O2 . C3 H4 O2 . C2 H6 O S)x

CCI PMS

CM 3

CRN 10097-02-6

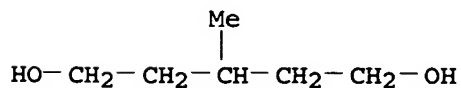
CMF C6 H12 O4



CM 4

CRN 4457-71-0

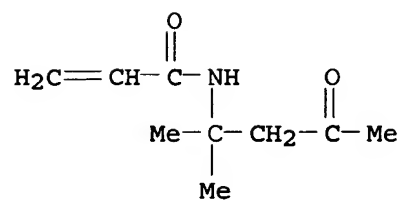
CMF C6 H14 O2



CM 5

CRN 2873-97-4

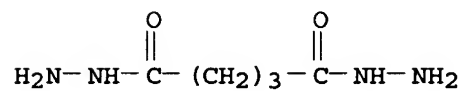
CMF C9 H15 N O2



CM 6

CRN 1508-67-4

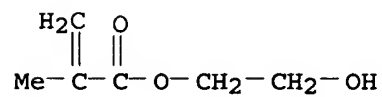
CMF C5 H12 N4 O2



CM 7

CRN 868-77-9

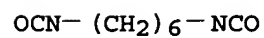
CMF C6 H10 O3



CM 8

CRN 822-06-0

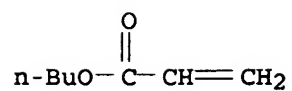
CMF C8 H12 N2 O2



CM 9

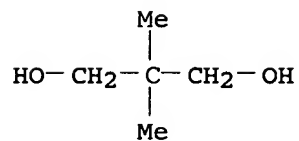
CRN 141-32-2

CMF C7 H12 O2



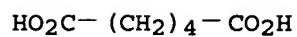
CM 10

CRN 126-30-7
CMF C5 H12 O2



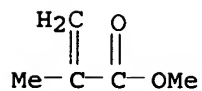
CM 11

CRN 124-04-9
CMF C6 H10 O4



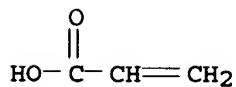
CM 12

CRN 80-62-6
CMF C5 H8 O2



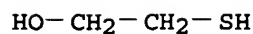
CM 13

CRN 79-10-7
CMF C3 H4 O2



CM 14

CRN 60-24-2
CMF C2 H6 O S

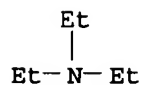


RN 365438-81-9 HCAPLUS
 CN Pentanedioic acid, dihydrazide, polymer with 2,2-bis(hydroxymethyl)butanoic acid, bis(isocyanatomethyl)cyclohexane, 1,3-dihydroxy-2-propanone, α -hydro- ω -hydroxypoly(oxy-1,4-butanediyl), 2-hydroxyethyl 2-methyl-2-propenoate, 2-mercaptoethanol and methyl 2-methyl-2-propenoate, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-80-8

CMF (C10 H14 N2 O2 . C6 H12 O4 . C6 H10 O3 . C5 H12 N4 O2 . C5 H8 O2 . (C4 H8 O)n H2 O . C3 H6 O3 . C2 H6 O S)x

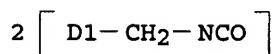
CCI PMS

CM 3

CRN 42170-25-2

CMF C10 H14 N2 O2

CCI IDS

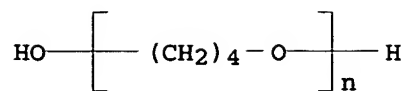


CM 4

CRN 25190-06-1

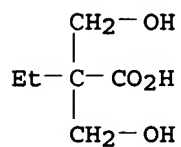
CMF (C4 H8 O)n H2 O

CCI PMS



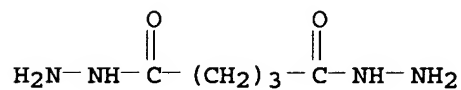
CM 5

CRN 10097-02-6
CMF C6 H12 O4



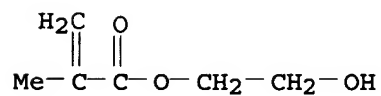
CM 6

CRN 1508-67-4
CMF C5 H12 N4 O2



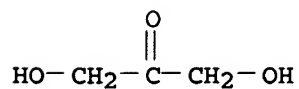
CM 7

CRN 868-77-9
CMF C6 H10 O3



CM 8

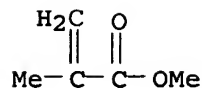
CRN 96-26-4
CMF C3 H6 O3



CM 9

CRN 80-62-6

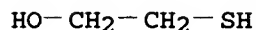
CMF C5 H8 O2



CM 10

CRN 60-24-2

CMF C2 H6 O S



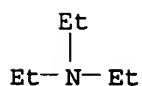
RN 365438-83-1 HCAPLUS

CN Hexanedioic acid, polymer with 2-aminoethanethiol, 5-amino-1,3-trimethylcyclohexanemethanamine, butyl 2-propenoate, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, 2,2-dimethyl-1,3-propanediol, hexanedioic acid dihydrazide, 1,6-hexanediol, 2-hydroxyethyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-propenoate, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyl 2-methyl-2-propenoate, 2-propenenitrile and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-82-0

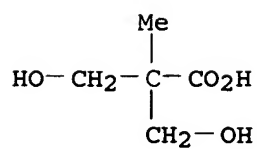
CMF (C12 H18 N2 O2 . C10 H22 N2 . C9 H15 N O2 . C7 H12 O2 . C6 H14 N4 O2 . C6 H14 O2 . C6 H10 O4 . C6 H10 O3 . C5 H12 O2 . C5 H10 O4 . C5 H8 O3 . C5 H8 O2 . C3 H4 O2 . C3 H3 N . C2 H7 N S)x

CCI PMS

CM 3

CRN 4767-03-7

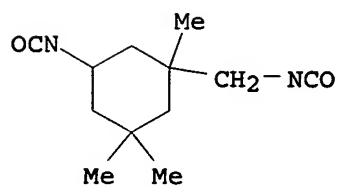
CMF C5 H10 O4



CM 4

CRN 4098-71-9

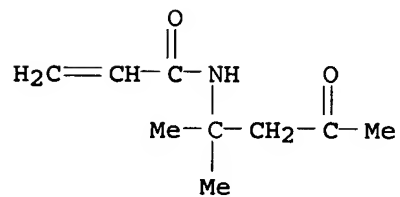
CMF C12 H18 N2 O2



CM 5

CRN 2873-97-4

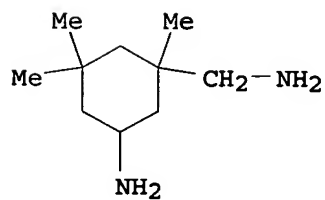
CMF C9 H15 N O2



CM 6

CRN 2855-13-2

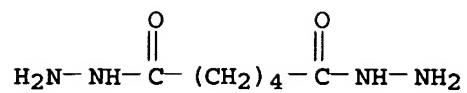
CMF C10 H22 N2



CM 7

CRN 1071-93-8

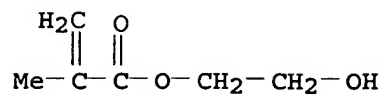
CMF C6 H14 N4 O2



CM 8

CRN 868-77-9

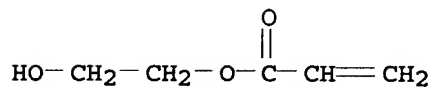
CMF C6 H10 O3



CM 9

CRN 818-61-1

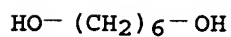
CMF C5 H8 O3



CM 10

CRN 629-11-8

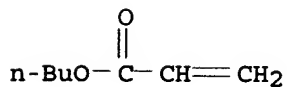
CMF C6 H14 O2



CM 11

CRN 141-32-2

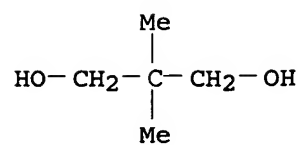
CMF C7 H12 O2



CM 12

CRN 126-30-7

CMF C5 H12 O2



CM 13

CRN 124-04-9

CMF C6 H10 O4



CM 14

CRN 107-13-1

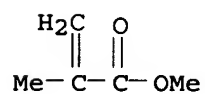
CMF C3 H3 N



CM 15

CRN 80-62-6

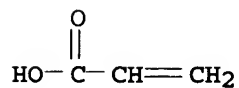
CMF C5 H8 O2



CM 16

CRN 79-10-7

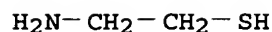
CMF C3 H4 O2



CM 17

CRN 60-23-1

CMF C2 H7 N S



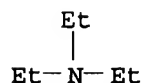
RN 365438-85-3 HCAPLUS

CN Hexanedioic acid, dihydrazide, polymer with 2-aminoethanethiol, 5-amino-1,3,3-trimethylcyclohexanemethanamine, 2,2-bis(hydroxymethyl)butanoic acid, butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-oxobutyl)-2-propenamide, α,α' -1,2-ethanediylbis[ω -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]]], 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-84-2

CMF (C10 H22 N2 . C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H14 N4 O2 . C6 H12 O4 . C6 H10 O3 . (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2 . C5 H8 O2 . C3 H4 O2 . C2 H7 N S)x

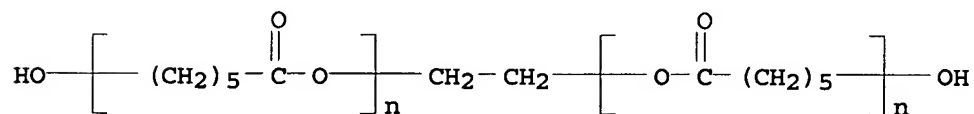
CCI PMS

CM 3

CRN 59692-54-5

CMF (C6 H10 O2)n (C6 H10 O2)n C2 H6 O2

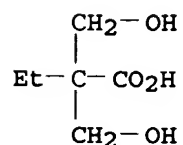
CCI PMS



CM 4

CRN 10097-02-6

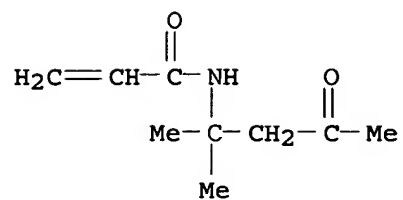
CMF C6 H12 O4



CM 5

CRN 2873-97-4

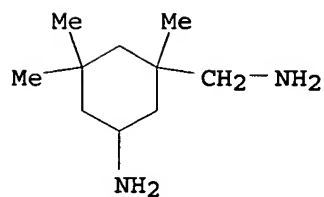
CMF C9 H15 N O2



CM 6

CRN 2855-13-2

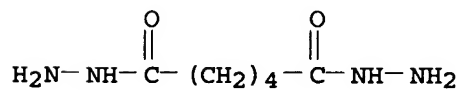
CMF C10 H22 N2



CM 7

CRN 1071-93-8

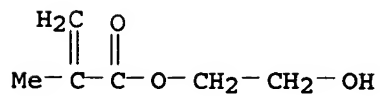
CMF C6 H14 N4 O2



CM 8

CRN 868-77-9

CMF C6 H10 O3



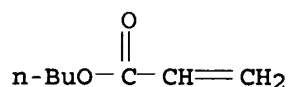
CM 9

CRN 822-06-0
CMF C8 H12 N2 O2



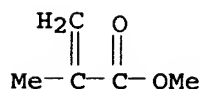
CM 10

CRN 141-32-2
CMF C7 H12 O2



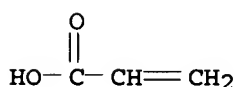
CM 11

CRN 80-62-6
CMF C5 H8 O2



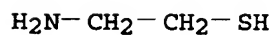
CM 12

CRN 79-10-7
CMF C3 H4 O2



CM 13

CRN 60-23-1
CMF C2 H7 N S



RN 365438-88-6 HCAPLUS

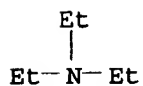
CN Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with
2-aminoethanethiol, 5-amino-1,3,3-trimethylcyclohexanemethanamine,
butyl 2-propenoate, 1,6-diisocyanatohexane, N-(1,1-dimethyl-3-
oxobutyl)-2-propenamide, α,α' -1,2-
ethanediylbis[ω -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]] ,
2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate

and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 365438-87-5

CMF (C10 H22 N2 . C9 H15 N O2 . C8 H12 N2 O2 . C7 H12 O2 . C6 H12 O4 . C6 H10 O3 . (C6 H10 O2)_n (C6 H10 O2)_n C2 H6 O2 . C5 H8 O2 . C3 H4 O2 . C2 H7 N S)_x

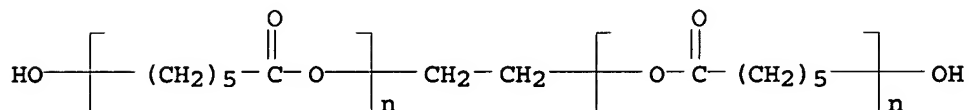
CCI PMS

CM 3

CRN 59692-54-5

CMF (C6 H10 O2)_n (C6 H10 O2)_n C2 H6 O2

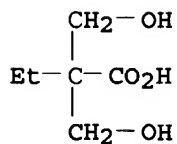
CCI PMS



CM 4

CRN 10097-02-6

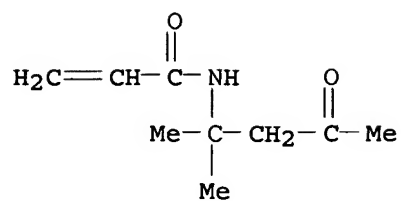
CMF C6 H12 O4



CM 5

CRN 2873-97-4

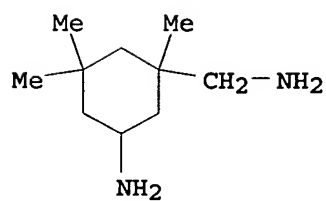
CMF C9 H15 N O2



CM 6

CRN 2855-13-2

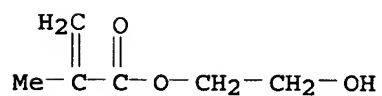
CMF C10 H22 N2



CM 7

CRN 868-77-9

CMF C6 H10 O3



CM 8

CRN 822-06-0

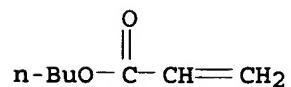
CMF C8 H12 N2 O2



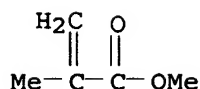
CM 9

CRN 141-32-2

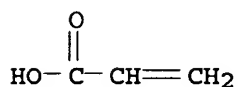
CMF C7 H12 O2



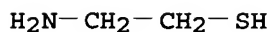
CM 10

CRN 80-62-6
CMF C5 H8 O2

CM 11

CRN 79-10-7
CMF C3 H4 O2

CM 12

CRN 60-23-1
CMF C2 H7 N S

IC ICM C08F283-00

ICS C08F002-44; C08G018-28; C08L075-04; C09D151-08

CC 42-7 (Coatings, Inks, and Related Products)

IT 60-24-2DP, acrylic polyurethanes 80-62-6DP, Methyl methacrylate,
 acrylic polyurethanes 96-26-4DP, Bis(hydroxymethyl)ketone,
 acrylic polyurethanes 101-43-9DP, Cyclohexyl methacrylate,
 acrylic polyurethanes 629-11-8DP, 1,6-Hexanediol, reaction
 products with dimer acids, acrylic polyurethanes 868-77-9DP,
 2-Hydroxyethyl methacrylate, acrylic polyurethanes 2873-97-4DP,
 Diacetoneacrylamide, acrylic polyurethanes 5124-30-1DP,
 Hydrogenated MDI, acrylic polyurethanes 10097-02-6DP,
 2,2-Dimethylolbutyric acid, acrylic polyurethanes
 365438-66-0P 365438-68-2P 365438-70-6P
 365438-72-8P 365438-74-0P 365438-77-3P
 365438-79-5P 365438-81-9P 365438-83-1P
 365438-85-3P 365438-88-6P

(manufacture of aqueous acrylic urethane polymer emulsions without using
 organic solvents for haze-free flexible coatings)

L21 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:549531 HCAPLUS

DOCUMENT NUMBER: 119:149531

TITLE: Photosensitive **compositions** useful
 for making presensitized lithographic plates

INVENTOR(S): Nakai, Hideyuki; Suzuki, Toshitsugu;
 Matsumura, Tomoyuki

PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04362647	A2	19921215	JP 1991-164992	1991 0610

PRIORITY APPLN. INFO.:

JP 1991-164992

1991
0610

AB In the title **composition** comprising a compound which generates acid upon irradiation with actinic rays and a compound having a bond **decomposable** by the acid, the compound which generates acid upon irradiation with actinic rays is a condensate of o-naphthoquinonediazidosulfonic acid halide and an oxime-containing compound. The **comps.** show good stability in photosensitivity after exposure and under-developability (developability with respect to developers with reduced developing capacity).

IT 149671-27-2P

(preparation of, photosensitive **composition** containing, for lithog. plate making)

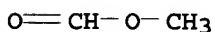
RN 149671-27-2 HCAPLUS

CN Formic acid, methyl ester, polymer with 3-mercapto-1,2-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 107-31-3

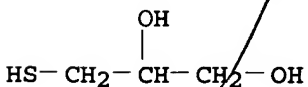
CMF C2 H4 O2



CM 2

CRN 96-27-5

CMF C3 H8 O2 S



IC ICM G03F007-022

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photosensitive **compn** naphthoquinonediazide compd; oxime condensate photosensitive **compn**; presensitized lithog

plate photosensitive compn
 IT Lithographic plates
 (presensitized, photosensitive composition for, containing
 naphthoquinonediazide acid-generator)
 IT 146905-39-7P 146905-40-0P 146905-41-1P
 (preparation of, photosensitive composition containing,
 acid-generator, for lithog. plate making)
 IT 69468-60-6P 78537-86-7P 115324-80-6P 115815-82-2P
 116745-41-6P 117646-94-3P 117647-26-4P 117647-27-5P
 117992-19-5P 118188-70-8P 119201-95-5P 149671-27-2P
 149671-30-7P
 (preparation of, photosensitive composition containing, for lithog.
 plate making)

L21 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:244642 HCAPLUS

DOCUMENT NUMBER: 118:244642

TITLE: Photosensitive compositions useful
 for making presensitized lithographic plates

INVENTOR(S): Nakai, Hideyuki; Akyama, Takeo

PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

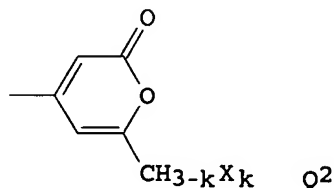
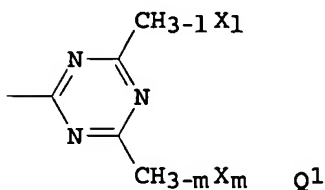
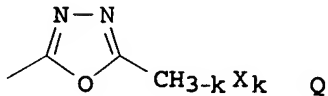
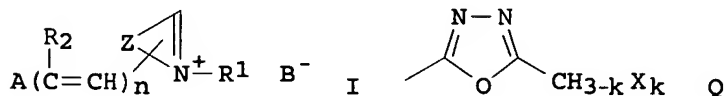
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04362643	A2	19921215	JP 1991-164993	1991 0610
PRIORITY APPLN. INFO.:			JP 1991-164993	1991 0610

OTHER SOURCE(S): MARPAT 118:244642
 GI



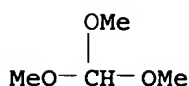
AB The title compns. comprise a compound I (A = Q, Q1, Q2; X
 = halo; k, l, m = 1-3; B = monovalent anion; R1 = H, alkyl, aryl,

aralkyl; aromatic heterocycle) generating an acid by irradiation with active rays and another having a bond which is decomposed by the acid. The compns. show good photosensitivity and under-developability.

IT 115324-68-0P
(preparation of, photosensitive composition containing, for lithog. plate making)
RN 115324-68-0 HCAPLUS
CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
(CA INDEX NAME)

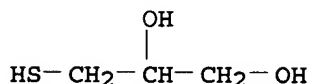
CM 1

CRN 149-73-5
CMF C4 H10 O3



CM 2

CRN 96-27-5
CMF C3 H8 O2 S



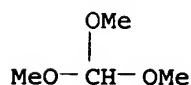
IC ICM G03F007-004
ICS G03F007-029; G03F007-039; H01L021-027
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photosensitive compn acid generating compd;
presensitized lithog plate photosensitive compn
IT Lithographic plates
(presensitized, photosensitive composition for, containing acid-generator)
IT 142515-37-5 147360-65-4 147360-66-5 147769-57-1
(photosensitive composition containing, acid-generator, for lithog. plate making)
IT 69468-60-6P 78537-86-7P 96758-30-4P 115157-62-5P
115324-68-0P 115324-80-6P 116745-41-6P 117646-94-3P
117647-26-4P 117647-27-5P 117992-19-5P
(preparation of, photosensitive composition containing, for lithog. plate making)

L21 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:244641 HCAPLUS
DOCUMENT NUMBER: 118:244641
TITLE: Photosensitive compositions useful
for making presensitized lithographic plates
INVENTOR(S): Nakai, Hideyuki
PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

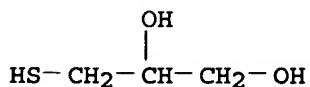
DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04362642	A2	19921215	JP 1991-164991	1991 0610
PRIORITY APPLN. INFO.:				JP 1991-164991 1991 0610

OTHER SOURCE(S): MARPAT 118:244641
 GI For diagram(s), see printed CA Issue.
 AB The title **compns.** comprise a compound which generates an acid by irradiation with active rays, a compound having ≥ 1 bond which is **decomposed** by the acid, and a nitro compound I [A = (substituted) aromatic or heterocyclic ring having 5-14 ring-forming atoms; R1-3 = H, (substituted) alkyl, aryl, aralkyl] forming an amine compound by irradiation with active rays. The **compns.** show good stability in photosensitivity after exposure and dot-reproducibility.
 IT 115324-68-0P
 (preparation of, photosensitive **composition** containing, for lithog. plate making)
 RN 115324-68-0 HCAPLUS
 CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 149-73-5
 CMF C4 H10 O3



CM 2
 CRN 96-27-5
 CMF C3 H8 O2 S



IC ICM G03F007-004
 ICS G03F007-004; G03F007-029; G03F007-039
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photosensitive **compn** amine forming compd; nitro compd
 photosensitive **compn**; presensitized lithog plate
 photosensitive **compn**
 IT Lithographic plates
 (presensitized, photosensitive **composition** for, containing
 amine-generator and acid-generator)
 IT 69432-40-2 72015-26-0 93641-24-8
 (photosensitive **composition** containing, acid-generator, for
 lithog. plate making)
 IT 74109-34-5 74109-35-6 119137-03-0 147382-82-9
 (photosensitive **composition** containing, amine-generator, for
 lithog. plate making)
 IT 69468-60-6P 78537-86-7P 96758-30-4P 115157-62-5P
 115324-68-0P 115324-80-6P 116745-41-6P 117646-94-3P,
 1,1-Dimethoxycyclohexane-triethylene glycol copolymer
 117647-26-4P, 1,1-Dimethoxycyclohexane-triethylene glycol
 copolymer, sru 117647-27-5P 117992-19-5P
 (preparation of, photosensitive **composition** containing, for lithog.
 plate making)

L21 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1993:222963 HCAPLUS
 DOCUMENT NUMBER: 118:222963
 TITLE: Photosensitive **compositions** useful
 for making presensitized lithographic plates
 INVENTOR(S): Nakai, Hideyuki; Akyama, Takeo
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04362644	A2	19921215	JP 1991-164994	1991 0610

PRIORITY APPLN. INFO.: JP 1991-164994

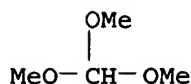
1991
0610

OTHER SOURCE(S): MARPAT 118:222963

AB The title **compns.** comprise 2-halomethyl-1,3,4-oxadiazole
 compound having a (substituted) naphthofuryl group at its 5 position
 directly or through vinyl group which generating an acid by
 irradiation with active rays and a compound having a bond which is
 decomposed by the acid. The **compns.**
 provide presensitized lithog. plates with high photosensitivity.
 IT 115324-68-0P, Methyl orthoformate-thioglycerol copolymer
 (preparation of, photosensitive **composition** containing, for lithog.
 plate making)
 RN 115324-68-0 HCAPLUS
 CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)

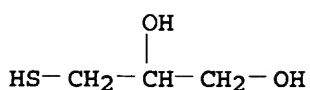
CM 1

CRN 149-73-5
CMF C4 H10 O3



CM 2

CRN 96-27-5
CMF C3 H8 O2 S



IC ICM G03F007-004
ICS G03F007-029; G03F007-039
CC 74-6 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
ST photosensitive **compn** halomethyloxadiazole deriv;
acid decomposable compd photosensitive
compn; presensitized lithog plate photosensitive
compn
IT Lithographic plates
(presensitized, photosensitive **composition** for, containing
oxadiazole acid-generator)
IT 147382-83-0 147382-84-1 147382-85-2 147382-86-3
(photosensitive **composition** containing, acid-generator, for
lithog. plate making)
IT 69468-60-6P, Benzaldehyde-triethylene glycol copolymer
78537-86-7P, 1,2,6-Hexanetriol-methyl orthoformate copolymer
96758-30-4P 115157-62-5P, 1,2,6-Hexanetriol-tetramethyl
orthocarbonate copolymer **115324-68-0P**, Methyl
orthoformate-thioglycerol copolymer 115324-80-6P, Methyl
orthoformate-thioglycerol copolymer, sru 116745-41-6P,
1,2,6-Hexanetriol-methyl orthoformate copolymer, sru
117646-94-3P, 1,1-Dimethoxycyclohexane-triethylene glycol
copolymer 117647-26-4P 117647-27-5P, Benzaldehyde-triethylene
glycol copolymer, sru 117992-19-5P, 1,2,6-Hexanetriol-
tetramethyl orthocarbonate copolymer, sru
(preparation of, photosensitive **composition** containing, for lithog.
plate making)

L21 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:174024 HCAPLUS
DOCUMENT NUMBER: 110:174024
TITLE: Preparation of **acid-**
cleavable epoxide addition polymers
containing acetal linkages
INVENTOR(S): Klee, Joachim; Hoerhold, Hans Heinrich; Hopf,
Gert; Rode, Peter
PATENT ASSIGNEE(S): Friedrich-Schiller-Universitaet, Ger. Dem.
Rep.
SOURCE: Ger. (East), 4 pp.

DOCUMENT TYPE: CODEN: GEXXA8
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: German
 PATENT INFORMATION: 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 257435	A1	19880615	DD 1987-299685	1987 0204

PRIORITY APPLN. INFO.: DD 1987-299685
 1987
 0204

AB The title polymers, useful as adhesives, passivation materials in the elec. industry, **resists**, etc., are prepared by the reaction of diepoxides with acetal compds. such as RCH(OCH₂CH₂NHR₁)₂ or RCH(OCH₂CH₂SH)₂ (R = H, Me, vinyl, Ph, etc.; R₁ = Ph, PhCH₂, Me, etc.). Heating 14.69 mmol bisphenol A diglycidyl ether and 14.69 mmol 1,7-bis(benzylamino)-3,5-dioxahseptane 24 h at 60° gave a polymer (mol. weight 11,500) which was soluble in THF, pyridine, etc., and cleavable by alc. HCl.

IT 119889-66-6P

(preparation of **acid-cleavable**)

RN 119889-66-6 HCAPLUS

CN Ethanethiol, 2,2'-[methylenebis(oxy)]bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (9CI) (CA INDEX NAME)

CM 1

CRN 16128-67-9

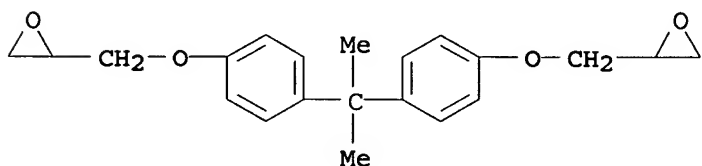
CMF C5 H12 O2 S2

HS-CH₂-CH₂-O-CH₂-O-CH₂-CH₂-SH

CM 2

CRN 1675-54-3

CMF C21 H24 O4



IC ICM C08G059-10

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37

ST epoxy acetal resin **acid cleavage**; depolymn
 acid epoxy acetal resin; polymn addn epoxy acetal depolymn;

resist epoxy acetal resin depolymn; adhesive epoxy acetal resin depolymn; passivation epoxy acetal resin depolymn

IT Passivation
(acetal compound-diepoxy addition products for, preparation of acid-cleavable)

IT Adhesives
Resists
(acetal compound-diepoxy addition products, preparation of acid-cleavable)

IT Acetals
(diamino and dithiol derivs., addition products with diepoxides, preparation of acid-cleavable)

IT Epoxy resins, compounds
(reaction products, with diamino and dithiol derivs. of acetals, preparation of acid-cleavable)

IT 119889-66-6P 119923-62-5P 120127-26-6P
(preparation of acid-cleavable)

L21 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:125479 HCAPLUS

DOCUMENT NUMBER: 110:125479

TITLE: Photosensitive compositions, and lithographic plate containing the same

INVENTOR(S): Nakai, Hideyuki; Sasa, Nobumasa; Matsubara, Shinichi; Urano, Toshiyoshi; Murakami, Sachiko

PATENT ASSIGNEE(S): Konica Co., Japan; Mitsubishi Chemical Industries Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 63097944	A2	19880428	JP 1986-243861	1986 1014
PRIORITY APPLN. INFO.: JP 1986-243861				1986 1014

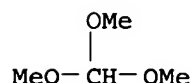
AB The title composition contains (a) a compound that liberates acid on irradiation with activating radiation, (b) a compound having acid-cleavable bond(s), (c) novolak resin, and (d) a polymer having structural unit -CR₁R₂CR₃(CONR₄XnYOH)- [R₁-R₂ = H, alkyl, carboxy; R₃ = H, halo, alkyl; R₄ = H, alkyl, Ph, aralkyl; Y = (substituted) phenylene, naphthylene; X = connecting group between N and aromatic C atoms; n = 0-5]. Lithog. plates having photosensitive layer containing the above composition is also claimed. The photosensitive composition and the lithog. plates have especially wide range of tolerance of development conditions. Thus, a solution containing acid-cleavable 1:1 dimethoxycyclohexane-triethylene glycol copolymer 2.14, novolak from phenol 2, m-cresol 4.8, and p-cresol 3.2 and HCHO 1.91, and 3:3:4 acrylonitrile-p-hydroxymethacrylanilide-Me methacrylate copolymer 3.83, Victoria Pure Blue BOH 0.05, and 2-trichloromethyl-5-[β-(2-benzofuryl)vinyl-1,3,4-oxadiazole

0.027 g was coated on an Al plate to obtain a lithog. plate. This plate was sensitometrically exposed to UV, and developed using alkaline developers whose dilution factor of stock solution ranged from 3 to 15. Lithog. plates good for use were obtained with any of these developers, using same development time and temperature. High resistance to plate cleaner and developing ink were also confirmed.

IT 115324-68-0
 (photosensitive lithog. plates containing, acid-cleavable)
 RN 115324-68-0 HCAPLUS
 CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)

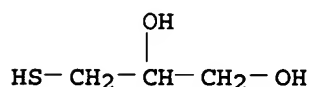
CM 1

CRN 149-73-5
 CMF C4 H10 O3



CM 2

CRN 96-27-5
 CMF C3 H8 O2 S



IC ICM G03C001-72
 ICS G03C001-72; G03F007-02
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 ST lithog plate development condition tolerance; photosensitive compn acid generating compd
 IT Lithographic plates
 (photosensitive compns., with wide tolerance to development conditions)
 IT Siloxanes and Silicones, uses and miscellaneous
 (photosensitive lithog. plates containing, acid-cleavable)
 IT 117646-96-5
 (photosensitive lithog. plates containing acid-cleavable compound and, for acid generation by activating radiations)
 IT 69468-60-6 78537-86-7 115157-62-5 115324-68-0
 117646-94-3
 (photosensitive lithog. plates containing, acid-cleavable)

L21 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:105034 HCAPLUS
 DOCUMENT NUMBER: 110:105034
 TITLE: Photosensitive **compositions**, and
 lithographic plates containing the same
 INVENTOR(S): Nakai, Hideyuki; Matsubara, Shinichi; Urano,
 Toshiyoshi; Murakami, Sachiko
 PATENT ASSIGNEE(S): Konica Co., Japan; Mitsubishi Chemical
 Industries Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63149638	A2	19880622	JP 1986-297305	1986 1212

PRIORITY APPLN. INFO.: JP 1986-297305
 1986
 1212

AB Compds. that liberate acids and those that liberate amines by
 irradiation with activating radiation, and compds. that have a bond or
 bonds **cleavable** by the **acids**, are contained in
 the title **compns.** The title lithog. plates have a
 photosensitive layer or layers containing these **compns.**
 These **compns.** maintain a stable sensitivity after the
 exposure, and have high reproducibility of halftone dots. Thus,
 an **acid-cleavable** polymeric compound with units
 of the formula $-(CH_2CH_2O)_3(1,1\text{-cyclohexylene})O-$ 2.14, a cresol
 novolak 5.74, 2-trichloromethyl-5- $[\beta\text{-(2-benzofuryl)vinyl}]$ -
 1,3,4-oxadiazole (acid-liberating compound) 0.27, Victoria Pure Blue
 BOH 0.05, and acetanilide (amine-liberating compound) 0.05 g
 dissolved in Me cellosolve were applied on anodized Al plates to
 obtain photosensitive lithog. plates. These plates showed no
 change of sensitivity upon a 90-min postexposure standing, either
 before or after a 2-day preexposure storage of the plates at
 40° and 80% relative humidity.

IT 115324-68-0
 (photosensitive lithog. plates containing acid-generating compds.
 and amine generators and, for stable sensitivity)

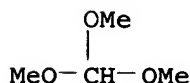
RN 115324-68-0 HCAPLUS

CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)

CM 1

CRN 149-73-5

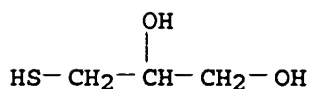
CMF C4 H10 O3



CM 2

CRN 96-27-5

CMF C3 H8 O2 S



IC ICM G03C001-72

ICS G03C001-00

CC 74-6 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

IT Lithographic plates

(photosensitive compns. containing acid-generators and
acid-cleavable compds. and amine generators
for, for stable photosensitivity)IT 112-35-6, Triethylene glycol monomethyl ether 122-99-6, Phenyl
cellosolve(condensation of, with acetal, acid-cleavable
compds. for photosensitive lithog. plates from)IT 931-94-2, 1,1-Dimethoxycyclopentane 933-40-4,
1,1-Dimethoxycyclohexane(condensation of, with glycol derivative, acid-
cleavable compds. for photosensitive lithog. plates
from)

IT 93641-24-8

(photosensitive lithog. plates containing acid-
cleavable compds. and amine-generating compds. and)

IT 103-84-4, Acetanilide

(photosensitive lithog. plates containing acid-generating compds.
acid-cleavable compds. and, for stable
sensitivity)

IT 620-71-3, Propionanilide

(photosensitive lithog. plates containing acid-generating compds.
and acid-cleavable compds. and, for stable
sensitivity)

IT 69468-60-6 78537-86-7 96758-30-4 115324-68-0

115324-80-6 115815-82-2 116745-41-6 117646-94-3

117647-26-4 117647-27-5 117992-19-5 118188-70-8

119201-95-5

(photosensitive lithog. plates containing acid-generating compds.
and amine generators and, for stable sensitivity)

L21 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:31459 HCAPLUS

DOCUMENT NUMBER: 110:31459

TITLE: Photosensitive compositions, and
lithographic plates containing the sameINVENTOR(S): Nakai, Hideyuki; Matsubara, Shinichi; Urano,
Toshiyoshi; Murakami, SachikoPATENT ASSIGNEE(S): Konica Co., Japan; Mitsubishi Chemical
Industries Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 63149640	A2	19880622	JP 1986-297307	1986 1212

PRIORITY APPLN. INFO.:

JP 1986-297307

1986
1212

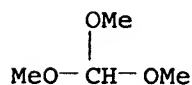
AB Comps. that liberate acids, amines that are not decomposed by irradiation with activating radiations and scavenge the acids, and comps. that have bond(s) cleavable by the acids, are contained in the title compns. The title lithog. plates have photosensitive layer(s) containing these compns. These compns. provide sensitivity maintained stably after the exposure, and high reproducibility of halftone dots.

IT 115324-68-0P
(photosensitive lithog. plates containing acid-generating comps., amines and, for stable sensitivity, preparation of)

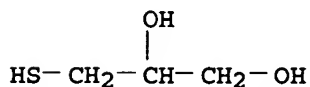
RN 115324-68-0 HCAPLUS

CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
(CA INDEX NAME)

CM 1

CRN 149-73-5
CMF C4 H10 O3

CM 2

CRN 96-27-5
CMF C3 H8 O2 SIC ICM G03C001-72
ICS G03C001-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Lithographic plates
(photosensitive compns., acid-generators, acid-cleavable comps. and amines contained in, for stable photosensitivity)

IT 112-35-6, Triethylene glycol monomethyl ether 122-99-6, Phenyl cellosolve

(condensation of, with acetal, **acid-cleavable** compds. for photosensitive lithog. plates from)

IT 931-94-2, 1,1-Dimethoxycyclopentane 933-40-4,
1,1-Dimethoxycyclohexane
(condensation of, with glycol derivative, **acid-cleavable** compds. for photosensitive lithog. plates from)

IT 93641-24-8
(photosensitive lithog. plates containing **acid-cleavable** compds., amines and)

IT 106-50-3, p-Phenylenediamine, uses and miscellaneous 150-13-0,
p-Aminobenzoic acid 1122-58-3, 4-Dimethylaminopyridine
(photosensitive lithog. plates containing acid-generating compds. **acid-cleavable** compds. and, for stable sensitivity)

IT 69468-60-6P 78537-86-7P 96758-30-4P 115157-62-5P
115324-68-0P 115324-80-6P 115815-82-2P 116745-41-6P
117646-94-3P 117647-26-4P 117647-27-5P 117992-19-5P
118188-70-8P
(photosensitive lithog. plates containing acid-generating compds., amines and, for stable sensitivity, preparation of)

L21 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:31458 HCAPLUS

DOCUMENT NUMBER: 110:31458

TITLE: Photosensitive **compositions**, and lithographic plates containing the same

INVENTOR(S): Nakai, Hideyuki; Matsubara, Shinichi; Urano, Toshiyoshi; Murakami, Sachiko

PATENT ASSIGNEE(S): Konica Co., Japan; Mitsubishi Chemical Industries Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

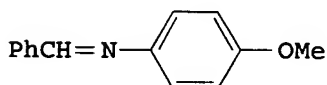
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 63149639	A2	19880622	JP 1986-297306	

1986
1212

PRIORITY APPLN. INFO.: JP 1986-297306

1986
1212

GI



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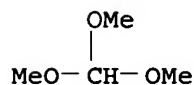
AB Compds. that liberate acids, those that are not decomposed by irradiation with activating radiations and liberate amines by hydrolysis, and compds. that have bond(s) **cleavable** by

the acids, are contained in the title compns.
The title lithog. plates have photosensitive layer(s) containing these compns. These compns. provide sensitivity maintained stably after the exposure, and high reproducibility of halftone dots.

IT 115324-68-0P
(photosensitive lithog. plates containing acid-generating compds., amine generators and, for stable sensitivity, preparation of)
RN 115324-68-0 HCAPLUS
CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
(CA INDEX NAME)

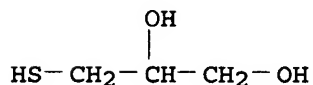
CM 1

CRN 149-73-5
CMF C4 H10 O3



CM 2

CRN 96-27-5
CMF C3 H8 O2 S



IC ICM G03C001-72
ICS G03C001-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT Lithographic plates
(photosensitive compns., acid-generators, acid-cleavable compds. and hydrolyzable amine generators contained in, for stable photosensitivity)
IT 112-35-6, Triethylene glycol monomethyl ether 122-99-6, Phenyl cellosolve
(condensation of, with acetal, acid-cleavable compds. for photosensitive lithog. plates from)
IT 931-94-2, 1,1-Dimethoxycyclopentane 933-40-4, 1,1-Dimethoxycyclohexane
(condensation of, with glycol derivative, acid-cleavable compds. for photosensitive lithog. plates from)
IT 93641-24-8
(photosensitive lithog. plates containing acid-cleavable compds., amine-generating compds. and)
IT 783-08-4
(photosensitive lithog. plates containing acid-generating compds. acid-cleavable compds. and, for stable sensitivity)
IT 69468-60-6P 78537-86-7P 96758-30-4P 115157-62-5P

115324-68-0P 115324-80-6P 115815-82-2P 116745-41-6P
 117646-94-3P 117647-26-4P 117647-27-5P 117992-19-5P
 118188-70-8P

(photosensitive lithog. plates containing acid-generating compds.,
 amine generators and, for stable sensitivity, preparation of)

L21 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:560638 HCAPLUS

DOCUMENT NUMBER: 109:160638

TITLE: Photosensitive **composition** and
 positive-type presensitized lithographic plate

INVENTOR(S): Urano, Toshiyoshi; Murakami, Sachiko; Nakai,
 Hideyuki; Sasa, Nobumasa

PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd.,
 Japan; Konica Co.

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

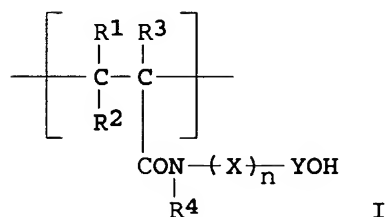
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63056650	A2	19880311	JP 1986-200006	1986 0828

PRIORITY APPLN. INFO.: JP 1986-200006

1986
0828

GI



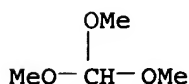
AB The title photosensitive **composition** contains a polymer having a structural unit of I [R¹, R² = H, alkyl, carboxylic acid; R³ = H, halogen, alkyl; R⁴ = H, alkyl, Ph, aralkyl; Y = phenylene or naphthylene which may have a substituent; X = divalent organic group; n = 0-5]. A presensitized lithog. plate has a photosensitive layer consisting of the polymer, a compound which produces an acid by light exposure, and a compound (having ≥1 bond which increases solubility relative to an alkali solution) capable of being **decomposed** by acids. A highly sensitive and highly chemical **resistant** pos.-type photosensitive **composition** and a presensitized lithog. plate therefrom are obtained.

IT 115324-68-0P
 (preparation of, pos. presensitized lithog. plate from)

RN 115324-68-0 HCAPLUS
 CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)

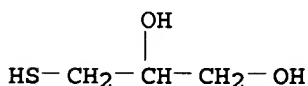
CM 1

CRN 149-73-5
 CMF C4 H10 O3



CM 2

CRN 96-27-5
 CMF C3 H8 O2 S



IC ICM G03C001-72
 ICS G03F007-08
 CC 74-6 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 ST photosensitive **compn**; pos presensitized lithog plate
 IT Lithographic plates
 (presensitized, pos., **composition** for, for improving
 sensitivity and chemical **resistance**)
 IT 19243-95-9P 27931-11-9P, N-(5-Hydroxy- α -naphthyl)methacryl
 amide
 (preparation and reaction of, pos.-type photosensitive **compn**
 . from, for presensitized lithog. plate)
 IT 78537-86-7P 115324-68-0P 116694-71-4P
 (preparation of, pos. presensitized lithog. plate from)
 IT 75-78-5, Dichlorodimethyl silane 80-62-6, Methyl methacrylate
 83-55-6, 5-Amino- α -naphthol 96-27-5, Thioglycerol
 104-15-4, p-Toluene sulfonic acid, reactions 106-69-4,
 1,2,6-Hexanetriol 112-60-7, Tetraethylene glycol 123-30-8,
 p-Hydroxy aniline 140-88-5 149-73-5, Trimethyl orthoformate
 150-76-5, Hydroquinone monomethyl ether 589-29-7, p-Xylene
 glycol 868-77-9, 2-Hydroxyethyl methacrylate 920-46-7,
 Methacrylic acid chloride
 (reaction of, pos.-type photosensitive **composition** from,
 for presensitized lithog. plate)

L21 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1988:464377 HCAPLUS
 DOCUMENT NUMBER: 109:64377
 TITLE: Color photoimaging **composition** for
 preparing color proof in platemaking
 INVENTOR(S): Ide, Koji; Fumiya, Shinichi; Sasa, Nobumasa;
 Watabe, Manabu
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd.,

SOURCE: Japan; Konica Co.
 Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62291634	A2	19871218	JP 1986-134536	

1986
0610

PRIORITY APPLN. INFO.: JP 1986-134536

1986
0610

AB A pos.-working color photoimaging sheet provides a color proof whose image quality is as good as that from printing. The color image-forming layer of the color photoimaging sheet is given the following components to improve its sensitivity. It contains (a) a compound such as 2-trichloromethyl-5-[β -(2-benzofuryl)vinyl]-1,3,4-oxadiazole that generates an acid upon irradiation with an actinic ray and (b) a compound such as an α -thioglycerol-trimethyl orthoformate copolymer having ≥ 1 bond dissociable by the acid. The color photoimaging sheet is prepared by laminating on a transparent support a heat-fusing layer and a color image-forming layer. A color image-forming process includes imagewise exposure of the photoimaging sheet, development, and transferring the resultant color image to a receptor sheet by applying heat and pressure and peeling off the transparent support.

IT 115324-68-0
 (color proof for platemaking from photoimaging composition containing)

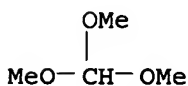
RN 115324-68-0 HCAPLUS

CN 1,2-Propanediol, 3-mercapto-, polymer with trimethoxymethane (9CI)
 (CA INDEX NAME)

CM 1

CRN 149-73-5

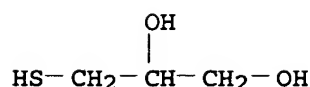
CMF C4 H10 O3



CM 2

CRN 96-27-5

CMF C3 H8 O2 S



IC ICM G03C001-00
 ICS B41M005-26; G03C005-00; G03C005-24; G03F003-10
 CC 74-6 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT Printing plates
 (color proofing in production of, photoimaging **compos.**
 for)
 IT Photoimaging **compositions** and processes
 (color, pos.-working, for color proofing in platemaking)
 IT 93641-24-8 115324-68-0 115324-69-1 115324-80-6
 (color proof for platemaking from photoimaging **composition**
 containing)

L21 ANSWER 21 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1967:444992 HCAPLUS

DOCUMENT NUMBER: 67:44992

TITLE: Xanthate **decomposition** in
 acid media. IV. Cellulose xanthate;
 dissociation equilibrium and kinetics of
 decomposition

AUTHOR(S): Tornell, Bertil

CORPORATE SOURCE: Chalmers Tek. Hogskol., Goteborg, Swed.

SOURCE: Svensk Papperstidning (1967), 70(9), 303-14
 CODEN: SVPAAE; ISSN: 0283-6831

DOCUMENT TYPE: Journal

LANGUAGE: English

AB cf. preceding abstract The decomposition of ripened and unripened
 samples of cellulose xanthate in acid medium was studied
 spectroscopically and the results showed that the intrinsic
 dissociation constant (K0) increased with decreasing number d. of unionized
 xanthate groups along the macromol. backbone. The limiting
 intrinsic pKa value obtained when the number d. of unchanged xanthate
 groups approached 0 was estimated as 1.0-1.2, indicating that
 cellulose xanthic acid is much stronger than Et xanthic acid. The
 second order reaction rate constant (k) varied with the number d. of
 unchanged xanthate groups and the variation was of the same
 magnitude but of opposite sign to that of K0. This simultaneous
 variation was explained by assuming that the effective dielec.
 constant decreased with increasing number d. of unchanged xanthate
 groups. At low degrees of substitution, the product kK0 was
 dependent on the **composition** of the reaction medium with
 variations similar to those observed with Et xanthate. Intramol.
 interactions exerted a stabilizing effect on the xanthate groups.

IT 9032-37-5, Cellulose, hydrogen dithiocarbonate
 (dissociation equilibrium in acid and kinetics of
 decomposition of)

RN 9032-37-5 HCAPLUS

CN Cellulose, hydrogen carbonodithioate (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

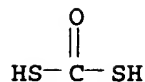
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4741-30-4

CMF C H2 O S2



CC 43 (Cellulose, Lignin, Paper, and Other Wood Products)

IT 9032-37-5, Cellulose, hydrogen dithiocarbonate
(dissociation equilibrium in acid and kinetics of
decomposition of)

L21 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1964:433152 HCAPLUS

DOCUMENT NUMBER: 61:33152

ORIGINAL REFERENCE NO.: 61:5833g-h,5834a

TITLE: Mechanism of capillary viscose-fiber
formation. XX. Kinetics of regenerated
cellulose fiber formation. 3. The
decomposition of cellulose xanthate in acid
AUTHOR(S): Groebe, Anneliese; Jost, Hartmut; Klare,
Hermann

CORPORATE SOURCE: Deut. Akad. Sci., Berlin

SOURCE: Faserforschung und Textiltechnik (1964),
15(5), 193-201

CODEN: FSTXA7; ISSN: 0014-8628

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 61, 3248c. The effects of various parameters on the course of cellulose xanthate decomposition were followed by reaction-rate constant detns. The constant did not depend on the Hottenroth ripeness or on the initial degree of xanthation in the range of 29.0-48.7 studied. The constant increased with a decreasing fiber diameter; however, the effect of this parameter was almost negligible in fiber diams. above 1 mm. At those larger diams., the rate-determining factor was diffusion rather than cellulose xanthate decomposition. The relations between reaction-rate constant (R) and temperature (T) were expressed by the equation $RT_2 = RT_1 \exp[(A)/B(T_2 - T_1)]$, where B represents the universal gas constant (1.987 cal./degree); T, the absolute temperature (°K.); A, 17 ± 2 kcal./mole for pure cellulose xanthate solns. and model filaments and 6 ± 0.5 kcal./mole for alkaline Na cellulose xanthate filaments. Zn cellulose xanthate, both in the form of an emulsion and of a filament, decompose slower in the 0-5 pH range than the corresponding Na cellulose xanthate. The relations between decomposition rate and pH are expressed in the equation $\log R = C_{pH} + d$, where C and d are consts., depending on the composition of the xanthate. The filament-formation process consists of neutralization of the alkali in the model filament, acidification of the model filament, and regeneration of the cellulose xanthate at the pH of the spinning bath. The latter stage is the rate-determining step in filament formation. The above findings applied also to capillary viscose filaments.

IT 9032-37-5, Cellulose xanthate
(decomposition degradation or hydrolysis of, in acids in filament
formation in spinning)
RN 9032-37-5 HCAPLUS
CN Cellulose, hydrogen carbonodithioate (9CI) (CA INDEX NAME)

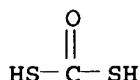
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4741-30-4
CMF C H2 O S2



CC 47 (Textiles)

IT Rayon
(spinning of, filament formation by xanthate decomposition
in acid in)

IT Cellulose xanthates, sodium salt
Cellulose xanthates, zinc salt
(formation and decomposition in acid in filament
formation)

IT Zinc, with cellulose xanthates
(formation and decomposition in acids in
filament formation)

IT 9032-37-5, Cellulose xanthate
(decomposition degradation or hydrolysis of, in acids in filament
formation in spinning)

L21 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1961:147201 HCAPLUS

DOCUMENT NUMBER: 55:147201

ORIGINAL REFERENCE NO.: 55:27897i,27898a-b

TITLE: Formation mechanism of regenerated cellulose
fibers. XIII. Fiber formation reactions of
capillary viscose fibers

AUTHOR(S): Grobe, Anneliese; Maron, Reinhard; Klare,
Hermann

CORPORATE SOURCE: Deut. Akad. Wiss., Berlin

SOURCE: Faserforschung und Textiltechnik (1961), 12,
196-207

CODEN: FSTXA7; ISSN: 0014-8628

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 55, 21597g. Acid penetration in capillary viscose
filaments emerging from the spinnerets (bromocresol purple being
used as indicator) was studied. Upon completion of the
acid penetration, the decomposition of the Na
cellulose xanthate was complete and the only reaction that took

place thereafter was neutralization of any alkali present. The neutralization point was a quant. measure of the H⁺ activity of the spinning bath, regardless of its composition. In a H₂SO₄/Na₂SO₄ spinning bath, the fiber cross-section was circular if the concentration was ≤2N NaHSO₄; above this concentration, the cross-section resembled a folded ribbon. The differences in fiber cross-section were attributed to the shrinking effect of the spinning bath employed. All reactions pertinent to fiber formation were completed within 50 mm. from the spinneret orifice at normal spinning rates.

IT 9032-37-5, Cellulose xanthate
(sodium derivs., decomposition in acid
penetration in spinning viscose filaments)
RN 9032-37-5 HCAPLUS
CN Cellulose, hydrogen carbonodithioate (9CI) (CA INDEX NAME)

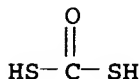
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4741-30-4
CMF C H₂ O S₂



CC 25 (Dyes and Textiles)
IT 9032-37-5, Cellulose xanthate
(sodium derivs., decomposition in acid
penetration in spinning viscose filaments)

L21 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1960:84760 HCAPLUS
DOCUMENT NUMBER: 54:84760
ORIGINAL REFERENCE NO.: 54:16139e-i,16140a-b
TITLE: Kinetic studies on the decomposition of
xanthates
AUTHOR(S): Philipp, Burkart; Fichte, Christa
CORPORATE SOURCE: Deut. Akad. Wiss., Berlin
SOURCE: Faserforschung und Textiltechnik (1960), 11,
118-24,172-9
CODEN: FSTXA7; ISSN: 0014-8628
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The decomposing solns. consisted of aqueous 0.1 to 10M NaOH solns. for
the strongly alkaline pH range and of buffered NaOH solns. for the pH
5-11 range. Initial xanthate concns. ranged from 0.01 to 0.1
mole/l. The decomposition kinetics were studied at 30 and 20°;
and for ethylxanthate and O-Et monothiocarbonate also in the
65-85° temperature range. The xanthate (monothiocarbonate)
content in the reaction mixture and the sulfide (trithiocarbonate)

content in the end product were determined at such intervals as to yield 8-10 individual results in the course of 2-3 times of the resp. half-life time. The decomposition of xanthates in an acid medium was characterized by a rapid hydrolytic formation of the free xanthic acid which, in turn, decomposed under the formation of CS₂, the only S-containing decomposition product. At a constant pH the reaction was of the 1st order. The same scheme applied to the decomposition of Et monothiocarbonate. In a strongly alkaline (above 5M NaOH) medium 2 xanthate ions and an OH ion formed an orthoxanthate in low concentration which, in turn, was split by a 2nd OH ion. On increasing the NaOH concentration from 7 to 10M the reaction rate constant increased considerably. Water did not appear to have participated in the decomposition mechanism. It was assumed that the orthoxanthates decompose into dithiocarbonates 1st; the latter then transform into sulfide through monothiocarbonate. Trithiocarbonate formed only at high alkaline concns. from cellulose xanthate. The absolute values of the reaction rate consts., in 7N NaOH at 30° varied from 0.022 to 1.0/hr. in the order: Et < 1,4-butanediol < cellulose < 1,3-butanediol < glycol < glycerol xanthate. At medium and low alkalinity the decomposition proceeds in various ways according to the composition of the xanthate. Et xanthate decompose through the slow hydration of the C:S bond; the primary product rapidly transforms into dithiocarbonate. The decomposition of polyalcs. was characterized by a secondary mechanism between the xanthate ions and water in which the adjoining free OH group also participated; the latter increased the reaction rate. This effect of the OH groups was even more pronounced in the case of glycerol and glycol xanthates, where, in the course of decomposition, any excess of free glycerol or glycol, resp., could cause rexanthation through the anionization of the vicinal OH groups. In cellulose xanthate and xanthates of simple carbohydrates the vicinal free OH groups facilitated the transformation with water, the transformation with OH ions playing a secondary function. A stability maximum of cellulose xanthate at 2-3N NaOH alkalinity was attributed to an equilibrium between a slowly proceeding reaction of xanthates and OH⁻ (this reaction decelerates with a decreasing NaOH concentration) and a reaction of xanthate groups and water (the rate increasing with decreasing NaOH concentration). The greater stability, under identical conditions, of C₆ xanthates, as compared with C₂₋₃ xanthates, was attributed to the action of vicinal undissocd. OH groups in the former.

IT 9032-37-5, Cellulose xanthate
(decomposition of)

RN 9032-37-5 HCAPLUS

CN Cellulose, hydrogen carbonodithioate (9CI) (CA INDEX NAME)

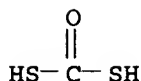
CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4741-30-4
CMF C H2 O S2



CC 2 (General and Physical Chemistry)

IT Hydroxyl group

(effect of vicinal, on decomposition of xanthic acid derivs. of polyhydric alcs.)

IT 140-89-6, Xanthic acid, ethyl-, potassium salt 9032-37-5
 , Cellulose xanthate 22410-33-9, Xanthic acid, 2-hydroxyethyl-,
 potassium salt 35832-93-0, Carbonic acid, thio-, O-ethyl ester,
 potassium salt 57516-89-9, Xanthic acid, (2,3-dihydroxypropyl)-,
 potassium salt 116600-70-5, Xanthic acid, 4-hydroxybutyl-,
 potassium salt 116600-72-7, Xanthic acid, 3-hydroxybutyl-,
 potassium salt 116603-95-3, Xanthic acid, D-glucosyl-, potassium
 salt 117042-93-0, Xanthic acid, (3-hydroxy-1-methylpropyl)-,
 potassium salt 860178-56-9, Xanthic acid, [2-hydroxy-1-
 (hydroxymethyl)ethyl]-, potassium salt
 (decomposition of)

L21 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1941:21519 HCAPLUS

DOCUMENT NUMBER: 35:21519

ORIGINAL REFERENCE NO.: 35:3435c-g

TITLE: The effect of salts of heavy metals on the
 velocity of decomposition of cellulose
 xanthate

AUTHOR(S): Pakshver, A.; Frolov, S.; Karegina, N.

SOURCE: Trans. Inst. Chem. Tech. Ivanovo (U. S. S. R.)
 (1940), (No. 3), 178-80

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The object of the expts. was to amplify the results obtained by
 Danilov and Gintse (C. A. 33, 5179.7) and to verify the decomposition
 velocity of Na, Ca, Zn, Ni and Cu cellulose xanthates. A 1-mm.
 layer of ordinary viscose was placed on a glass plate, coagulated
 in concentrated NaCl solution for 20 min., washed on the glass with
 concentrated

NaCl solution to complete removal of impurities (sulfides,
 thiocarbonates, etc.) and treated for 10 min. with a concentrated solution
 of the corresponding salt (CaCl₂, NaCl, CuCl₂, ZnCl₂).
 Preliminary expts. showed that a 10-min. reaction is sufficient.
 The film was decomposed with N H₂SO₄ for a definite time (with a
 stop watch) and immediately immersed in a 10% NaOAc solution, after
 which it was immersed for 5 min. in 20 ml. of AcOH and 10 ml. of
 0.1 N I solution. The amount of AcOH and the time of the reaction were
 determined by a blank experiment. The excess I was titrated with thiosulfate
 and the percentage of xanthate decomposed calculated. The velocity of
 the decomposition of xanthate does not increase with aging of the
 viscose, but decreases slightly. A decrease takes place also with
 the increase of the ratio α-cellulose:NaOH in viscose. The
 decomposition velocity is determined by the colloidal properties of the film
 of the cellulose. The older xanthates form on decomposition
 with acid a denser surface film of the regenerated
 cellulose, which retards the decomposition. This explains also the
 effect of the composition of viscose on the decomposition velocity
 of the xanthate. NiSO₄ retards the decomposition of the xanthate to a
 smaller extent than does ZnSO₄. Therefore ZnSO₄ cannot replace

NiSO₄ in the precipitating bath.
IT 9032-37-5, Cellulose xanthate
(decomposition of, effect of salts of heavy metals and compn
. of viscose on)

RN 9032-37-5 HCAPLUS

CN Cellulose, hydrogen carbonodithioate (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

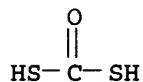
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4741-30-4

CMF C H2 O S2



CC 23 (Cellulose and Paper)

IT Viscose

(effect of **composition** of, on decomposition velocity of
cellulose xanthate)

IT Reaction kinetics and(or) velocity

(of cellulose xanthate decomposition, effect of heavy-metal salts
and **composition** of viscose on)

IT 9032-37-5, Cellulose xanthate

(decomposition of, effect of salts of heavy metals and compn
. of viscose on)